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IDENTIFIERS	*Accident Investigation

ABSTRACT

This teaching guide and student workbook for a postsecondary level course in traffic management and accident investigation is one of a number of military-developed curriculum packages selected for adaptation to vocational instruction and curriculum development in a civilian setting. Purpose stated for the 132-hour course is to expose students to the development of vehicle codes and traffic flow plans, analyses of traffic trends and accident causes, planning/conducting traffic accident investigations, and application of procedures in preparing and maintaining traffic reports and records. The plan of instruction, which suggests a number of hours of class time devoted to each course objective, is based on the following outline: Traffic Law Enforcement (44 hours), Traffic Accident Investigation (72 hours), Traffic Control (13 hours), and Measurement and Critique (3 hours). The teaching guide contains topic outlines for each class presentation along with behavioral objectives and notes on student evaluation. Contents of the student workbook include objectives, procedures, study assignments, and work assignment questions. Several films and slide tape series are suggested with the note that instructors may obtain them from an Air Force library or substitute similar materials. (JT)

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ED183901

Military Curricula for Vocational & Technical Education

TRAFFIC MANAGEMENT AND
ACCIDENT INVESTIGATION

17-8

THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION
THE OHIO STATE UNIVERSITY

This military technical training course has been selected and adapted by The Center for Vocational Education for "Trial Implementation of a Model System to Provide Military Curriculum Materials for Use in Vocational and Technical Education," a project sponsored by the Bureau of Occupational and Adult Education, U.S. Department of Health, Education, and Welfare.

MILITARY CURRICULUM MATERIALS

The military-developed curriculum materials in this course package were selected by the National Center for Research in Vocational Education Military Curriculum Project for dissemination to the six regional Curriculum Coordination Centers and other instructional materials agencies. The purpose of disseminating these courses was to make curriculum materials developed by the military more accessible to vocational educators in the civilian setting.

The course materials were acquired, evaluated by project staff and practitioners in the field, and prepared for dissemination. Materials which were specific to the military were deleted, copyrighted materials were either omitted or approval for their use was obtained. These course packages contain curriculum resource materials which can be adapted to support vocational instruction and curriculum development.

The National Center Mission Statement

The National Center for Research in Vocational Education's mission is to increase the ability of diverse agencies, institutions, and organizations to solve educational problems relating to individual career planning, preparation, and progression. The National Center fulfills its mission by:

- Generating knowledge through research
- Developing educational programs and products
- Evaluating individual program needs and outcomes
- Installing educational programs and products
- Operating information systems and services
- Conducting leadership development and training programs

FOR FURTHER INFORMATION ABOUT
Military Curriculum Materials
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Military Curriculum Materials for Vocational and Technical Education

Information and Field Services Division

The National Center for Research in Vocational Education

Military Curriculum Materials Dissemination Is . . .

an activity to increase the accessibility of military-developed curriculum materials to vocational and technical educators.

This project, funded by the U.S. Office of Education, includes the identification and acquisition of curriculum materials in print form from the Coast Guard, Air Force, Army, Marine Corps and Navy.

Access to military curriculum materials is provided through a "Joint Memorandum of Understanding" between the U.S. Office of Education and the Department of Defense.

The acquired materials are reviewed by staff and subject matter specialists, and courses deemed applicable to vocational and technical education are selected for dissemination.

The National Center for Research in Vocational Education is the U.S. Office of Education's designated representative to acquire the materials and conduct the project activities.

Project Staff:

Wesley E. Budke, Ph.D., Director
National Center Clearinghouse

Shirley A. Chase, Ph.D.
Project Director

What Materials Are Available?

One hundred twenty courses on microfiche (thirteen in paper form) and descriptions of each have been provided to the vocational Curriculum Coordination Centers and other instructional materials agencies for dissemination.

Course materials include programmed instruction, curriculum outlines, instructor guides, student workbooks and technical manuals.

The 120 courses represent the following sixteen vocational subject areas:

- Agriculture
- Aviation
- Building & Construction Trades
- Clerical Occupations
- Communications
- Drafting
- Electronics
- Engine Mechanics
- Food Service
- Health
- Heating & Air Conditioning
- Machine Shop
- Management & Supervision
- Meteorology & Navigation
- Photography
- Public Service

The number of courses and the subject areas represented will expand as additional materials with application to vocational and technical education are identified and selected for dissemination.

How Can These Materials Be Obtained?

Contact the Curriculum Coordination Center in your region for information on obtaining materials (e.g., availability and cost). They will respond to your request directly or refer you to an instructional materials agency closer to you.

CURRICULUM COORDINATION CENTERS

EAST CENTRAL
Rebecca S. Douglass
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Springfield, IL 62777
217/782-0759

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Honolulu, HI 96822
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Course Description.

This 132 hour course is designed to expose students to the development of vehicle codes and traffic flow plans, analyses of traffic trends and accident causes, planning/conducting traffic accident investigations and applications of procedures in preparing and maintaining traffic reports and records.

The course is based on the following time schedule:

Traffic Law Enforcement (44 hours)
Traffic Accident Investigation (72 hours)
Traffic Control (13 hours)
Measurement and Critique (3 hours)

The course contains both instructor and student materials. Instructor materials include a teaching guide and lesson plans. The student workbook contains objectives, procedures, study assignments and work assignment questions.

Several films and slide tape series are suggested. The instructor may be able to obtain these media materials from an Air Force library or substitute similar materials available.

TRAFFIC MANAGEMENT AND ACCIDENT INVESTIGATION

Classroom Course 17-8

L3AZR 81172-001

Developed by:
United States Air Force

Development and Review Dates:
May 1978

Occupational Area:
Public Service

Target Audiences:
Grades 13 - Adult

Print Pages: 142

Microfiche: 3

Availability:
Vocational Curriculum Coordination Centers

Contents:	Type of Materials:							Instructional Design:					Type of Instruction:		
	Lesson Plans:	Programmed Text:	Student Workbook:	Handouts:	Text Materials:	Audio-Visuals:		Performance Objectives:	Tests:	Review Exercises:	Additional Materials Required:		Group Instruction:	Individualized:	
Lesson Plan	•					x		•					•		
Student Workbook			•					•						•	

X Materials are recommended but not provided.

THE NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION
The Ohio State University
1960 Kenny Road
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TRAFFIC MANAGEMENT AND ACCIDENT INVESTIGATION

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GROUP SIZE JUSTIFICATION

a. Operation and programming maximums are twenty based on student performance limitation. This course is designed to expose students to the development of installation vehicle codes and traffic flow plans, analysis of traffic trends and accident causes, planning/conducting traffic accident investigations and application of procedures in preparing and maintaining traffic reports and records. This course has a zero washback rate.

b. Normal group size is eighteen inaccordance with ATCR 52-5, para 1-1c.

c. Programming and operational minimums are five based on school determination. It is essential that students exchange ideas and experiences related to course content and this group size will still provide that interaction.

SHIFT LIMIT JUSTIFICATION

One group per shift is limited by available support resources.

MULTIPLE INSTRUCTOR JUSTIFICATION

Day 4, Hour 4: Use of the speed timing equipment to include the speed gun and MR-7 requires one instructor per each group of ten students.

Day 4, Hours 5,6,7,8: These hours are devoted to students utilizing cameras to photograph an accident scene. This requires continuous observation of photographic techniques and pictorial results. Each group is divided into three sub-groups.

Day 5, Hours 6,7,8: This Unit of Instruction involves operation of breath testing devices. Due to the complexity of this equipment, an instructor/student ratio of one per ten is essential to explain the procedures while supervising student performance.

Day 9, Hours 5,6,7,8: Students are working with an intricate piece of equipment, the Traffic Template. This requires close supervision while students draw a scale diagram of an accident scene. Two instructors are required to supervise student progress.

Day 10, Hour 1 to 8: Students are required to take measurements at the mock accident scene, triangulate bodies and vehicles, establish direction of travel of vehicles and probable point of impact. This process requires two instructors to supervise these tasks.

Day 11, Hours 2,3,4: Students are required to individually determine minimum speeds of accident vehicles from vaults, falls and skidmarks. To cope with the complex mathematical formulas and simultaneous usage of these formulas with a tape measure, speed nomograph and coefficient of friction, the group is broken into two sub-groups.

Day 13, Hours 1 to 8: Students are required to apply all previous training in accident investigation at the mock accident scene. A student/instructor ratio of one per ten provides the supervisory expertise during all phases of their investigation.

Day 14, Hours 1 to 8: Same as Day 13.

Day 15, Hours 4 & 5: This unit of instruction involves students performing traffic studies from facts provided. An instructor/student ratio of one per ten is required for adequate supervision and evaluation of the tasks assigned.

3

LESSON PLAN

L3AZR81172-001

Technical Training

Traffic Management and Accident Investigation

25 JUL 1978

HEADQUARTERS 3280th TECHNICAL TRAINING GROUP (ATC)
(USAF Technical Training School)
Lackland Air Foce Base, Texas 78236

L3AZR81172-001-1

PART II - TEACHING GUIDE

INTRODUCTION (5 Minutes)

Welcome students, introduce course and inform students of what will be expected of them. Explain the reasons for their attendance in this course and that the course will provide them with important knowledge concerning this speciality within their career field.

BODY (50 Minutes)

PRESENTATION:

I. Orientation

1. Introduce Course Officials.

2. Have Students Introduce Themselves.

3. School and Academy Policies.

4. Brief on Student Critique Program.

5. Brief on Learning Center.

6. Brief on Community College of the Air Force, with emphasis placed on Career Education Certificate Program.

7. Conservation of Training Materials Resources and Energy.

8. Personal and Professional Integrity.

9. Course Content/ATC Evaluation.

10. USAF Graduate Evaluation Program.

11. Types and Uses of Instructional Materials.

CONCLUSION (5 Minutes)

Informs students that all information is designed to insure their progress through the course and that they will be briefed on any changes as required. Emphasize student responsibilities in complying with assignments and instructions given by course officials.

PART II - TEACHING GUIDE

INTRODUCTION (10 Minutes)

Introduce your subject and let the students know what is expected of them. Explain that this part of the course will give them an understanding of Traffic Codes, Traffic Law Enforcement, and related subjects.

BODY (43 Hours, 40 Minutes)

PRESENTATION:

I. Given the UVC, TLA, and a list of "Rules of the Road" identify which of the listed "Rules of the Road" from your state traffic code are in conformity with the UVC and could be assimilated on your installation with no more than four (4) errors.

1. Purpose of Traffic Laws

   a. Legitimate Purpose

   b. Misconceptions

2. Emergence of the Motor Vehicle

   a. Early development of the motor vehicle

   b. Early development of motor vehicle laws

      (1) Discuss the need to regulate traffic

      (2) Explain the early traffic laws

      (3) Explain the early attempts at standardization

3. Highway Safety Act of 1966

   a. Explain the National Highway Traffic Safety Administration.

      (1) Function

      (2) Enforcement

   b. Explain the National Highway Traffic Safety Program Standards.

      (1) Purpose of the individual standards

(2) Application to federal land

(3) Use within the Department of Defense

4. Uniform Vehicle Code

a. History and contents of the UVC

b. Explain the applibility to the military

5. Assimilative Crimes Act

a. Background

(1) Explain the three (3) types of federal jurisdiction

(a) Propritary

(b) Concurrent

(c) Exclusive

(2) Discuss double jeopardy

(a) Federal vs. State offenses

(b) Courts-martial vs. civil courts

(c) Service connection

(3) Explain the classes of offenders

(a) Persons subject to traffic laws

(b) Persons subject to traffic regulations

b. Applicability of Assimilative Crimes Act

6. U.S. Magistrate System

a. Explain the background and purpose of the court

b. Authority to hear case

c. Procedures and use of the magistrate citation & court

d. Use of the court within the military

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APPLICATION:

7. Given the UVC, TLA, and a list of "Rules of the Road" identify which of the listed "Rules of the Road" from your state traffic code are in conformity with UVC and could be assimilated on your installation with no more than four (4) errors.

EVALUATION:

8. Evaluate each student's achievement of the criterion objective.

PRESENTATION:

II. Given the UVC, TLA, and a list of five (5) "Rules of the Road", develop the "Rules of the Road" section of your installation traffic code assimilating three (3) of the five (5) rules given.

1. Explain the contents of the installation traffic code.

   a. Identify the requirements of the joint traffic regulation.

   b. Discuss the compatibility of the installation traffic regulations with the UVC/MTO.

   c. Discuss the compatibility of the UVC/MTO with applicable state traffic laws.

2. Explain the format of installation vehicle codes.

   a. Use of the state traffic law, UVC, and MTO.

   b. Meeting of unique military requirements.

   c. Recommended outline for installation vehicle code.

3. Considerations in the preparation of an installation vehicle code.

   a. Traffic Laws must:

      (1) Recognize human characteristics

      (2) Recognize driving custom

      (3) Set acceptable standards

      (4) Be known and observed

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b. Injuious Effect of Inadequate Laws

APPLICATION:

4. Given the UVC, TLA, and a list of five (5) "Rules of the Road", develop the "Rules of the Road" section of your installation traffic code assimilating three (3) of the five (5) rules given.

EVALUATION:

5. Evaluate each student's achievement of the criterion objective.

PRESENTATION:

III. Given six (6) driver behavior situations, determine the legality of illegality of each situation and apply the appropriate traffic law violation, if any, with no more than two (2) errors.

1. Elements of the offense

a. Acts

b. Omissions

c. Conditions

d. Circumstances

2. Elements of the Offense of D. U. I.

a. Basic elements of the offense

(1) Under the Influence (Condition)

(2) Driving, Operating, Actual Physical Control (Act)

(3) Vehicle or Motor Vehicle (Circumstance)

(4) Place (Circumstance)

b. Elements of Section 11-902, Driving Under the Influence, UVC.

(1) A person shall not drive or be in actual physical control of a vehicle while:

(a) "The Absolute Law"

(b) Under the Influence of Alcohol

(c) Under the Influence of Drugs

(d) Under the Combined Influence of Drugs and Alcohol

(2) Drugs/Alcohol prescribed by a doctor, no defense

(3) Penalty

c. Non-elements of the offense

(1) Erratic driving

(2) Negligent driving

d. A condition of driving vs. manner of driving

e. "Driving While Ability Impaired"

3. Items of Proof

a. Anything which may increase the probability of a person's guilt

b. Items of proof for D. U. I.

4. Explain the five general elements of traffic offenses

a. Place

b. Collision

c. Intent & Guilty Knowledge

d. Erratic Driving

e. Negligence

5. Discuss invalid and valid defenses in traffic offenses.

a. Invalid Defenses

(1) Ignorance of the Law

(2) Mistake of the Law

(3) Collision Cases

(a) Contributory negligence of pedestrian or driver, involved in accident.

(b) Violation of law by others involved in accident.

(c) Settlement with injured party, recovery of damages, in civil cases or civil cases pending.

(d) Dismissal of charges

(4) Non-ownership of the vehicle driven

(5) Intoxication of driver

(6) Violation of law by others

(7) Custom and usage

(8) Selective Enforcement

(9) Weather and road conditions

(10) Unlawful means of apprehending the accused

(11) Other invalid defenses

b. Valid Defenses

(1) Act compelled by necessity or impossibility of compliance

(2) Sudden mechanical failure

(3) Coercion by others

(4) Double Jeopardy, Res Judicata, Collateral Estoppel

(5) Entrapment

(6) Alibi

(7) Statute provides excuse or exception

(8) Statue of limitations

6. Speeding Offenses

a. Purpose of speed law enforcement

b. Types of speed laws

(1) Basic Speed Law

(a) Reasonable and prudent

(b) Conditions affecting speed

(c) Rate of speed not determing factor

(d) Provisions relating to control of vehicle

(e) Assured clear distance ahead

(f) Rules applied to night driving

(2) Absolute Speed Law

(3) Speed Zoning

(a) Maximum

(b) Minimum

(4) "Prima Facie" Speed Law

c. Racing, Drag Racing, and Exibition of Speed

(1) Elements of racing

(2) Elements of drag racing

(3) Elements of exibition of speed

7. Right-of-Way Violations

a. Basic rule applicable to all right-of-way situations

(1) Reasonable danger of a collision

(2) Collision

b. Intersections

(1) Uncontrolled

(2) Yield Signs

(3) Stop Signs

(4) Flashing Lights, Red & Yellow

(5) Left Turn

c. Vehicle entering roadway from private property

d. Pedestrian

e. Authorized Emergency Vehicle

f. Forfeiture or waiver of right-of-way

g. Essential Elements in Prosecution

(1) That another was entitled to the right-of-way

(2) That the accuse did not yield it

8. Evading responsibility following an accident (Hit & Run)

a. Constitutional aspects

b. Elements of the offense

(1) Driver

(2) Vehicle

(3) Involved in accident

(4) Resulting in injury and/or damage

(5) Stop

(6) Furnish Information

(7) Render assistance

(8) Immediate notice to police

(9) Knowledge of the accident

c. Duties of driver in unattended property cases

d. Purpose for "Hit & Run" investigation

(1) Primary - locate driver and bring to justice

(2) Secondary

(a) Serious crime

(b) Deterrant to others

(c) Increases public support

(d) Victim gets compensation

e. Introduce, show, and critique slide tape presentation "Hit & Run Inves."

f. Coordinated Investigation

(1) Accident investigator

(2) Station activities

(3) Area patrols

(4) Follow-up agencies

g. Investigation at scene

h. Identifying the vehicle

i. Confronting suspects

j. Introduce, show, and critique film FLC 8-0115 "Hit & Run Inves."

9. Reckless or careless driving

a. Types of reckless driving laws

b. Elements of the offense

(1) Drive

(2) Vehicle

(3) Willful or wanton disregard

(a) Willful

(b) Wanton

(c) "Evil" intent (intent to cause harm) not required

c. Non-elements of the Offense

(1) Negligence not sufficient

(2) Violation of traffic regulations

(3) Speed

(4) Influence of intoxicants

(a) Plea bargaining

(b) Manner of Operation vs. Condition of Driver

d. Drowsy or ailing driver reckless in continuing

e. Summary of reckless driving

f. Careless Driving

(1) Careless/negligent synonymous terms

(2) Failure to exercise "Ordinary" or "Reasonable" care

(3) Wilful & Wanton are not elements

10. Homicide by vehicle

a. Definition of terms

(1) Homicide

(2) Murder

(3) Manslaughter

(a) Voluntary

(b) Involuntary

(4) Homicide by vehicle

b. Elements of the offense

(1) Death

(2) Unintentionally

(3) Wrongful conduct of the accused

(a) Misdemeanor - Traffic Violations

(b) Lawful act negligently done

c. Variations

(1) Vehicle homicide laws based on ordinary negligence

(2) Homicide caused by driving under the influence

(3) Felony-Murder Rule

(4) Uniform Code of Military Justice (UCMJ)

(a) Article #118 - Murder

(b) Article #119 - Manslaughter

d. Proximate cause of death or injury

e. Assault with a vehicle

11. Article #111 - UCMJ - Drunk or Reckless Driving

a. Drunk Driving

(1) Elements of the offense

(2) Items of proof

b. Reckless Driving

(1) Elements of the offense

(2) Items of proof

c. Drunk & Reckless Driving

(1) Elements of the offense

(2) Items of proof

d. Persons who may be charged

12. Common Traffic Offenses

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APPLICATION:

13. Given six (6) driver behavior situations, determine the legality or illegality of each situation and apply the appropriate traffic law violation, if any, with no more than two (2) errors.

EVALUATION:

14. Evaluate each student's achievement of the criterion objective.

PRESENTATION:

IV. Given the locations of thirty six (36) vehicle accidents, prepare an accident spot map IAW AFM 125-19 and FM 19-25.

1. Selective Enforcement

a. Define selective enforcement

b. Determine the objective of selective traffic enforcement and discuss the concepts.

(1) Keep driving public conscious of traffic violations

(2) Increased police activities

(3) Immediate driver conditioning techniques

c. Uses of accident and enforcement information

2. Selective enforcement tools

a. Explain the importance of accident records

(1) User

(2) Sources

b. Explain accident spot maps

(1) Purpose

(2) Preparation and maintenance

(3) Introduce, show and critique film, "Traffic Accident Spot Map", TF 19-4732

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APPLICATION:

3. Given the locations of 36 vehicle accidents and an installation map, each student will prepare a traffic accident spot map IAW FM 19-25, Chapter 26.

EVALUATION:

4. Evaluate each student's achievement of the criterion objective.

PRESENTATION:

V. Given a list of five hundred seventy four (574) accidents involving thirteen (13) types of violations, prepare a table listing the violations by degree, IAW FM 19-25.

1. Explain table of violations

   a. Purpose

   b. Preparation and maintenance

      (1) Natural breaking point

      (2) 50% cutoff

      (3) Use of percentage

2. Identify correlation with other selective traffic enforcement tools.

APPLICATION:

3. Given a list of 574 accidents involving 13 types of violations, each student will prepare a table listing the violations by degree.

EVALUATION:

4. Evaluate each student's achievement of the criterion objective.

PRESENTATION:

VI. Given the number of moving violations and the number of accidents occuring for the same period, compute the Traffic Enforcement Index IAW FM 19-25.

1. Explain the use of the enforcement index.

a. Purpose

b. Preparation

(1) Formula developed by IACP

(2) Formula IAW FM 19-25

c. Use

(1) Point of diminishing return

(2) Over enforcement

(3) Under enforcement

APPLICATION:

2. Given the number of moving violations and the number of accidents occuring for the same period, compute the Traffic Enforcement Index.

EVALUATION:

3. Evaluate each student's achievement of the criterion objective.

PRESENTATION:

VII. Given the statistical data on vehicle accidents and violations for a one month period, analyze the data and prepare a traffic enforcement bulletin IAW FM 19-25.

1. Explain the traffic enforcement bulletin.

a. Purpose

b. Preparation

c. Contents

d. Dispostion

2. Discuss the "Right Amount" of enforcement

a. Point of diminishing returns

b. The enforcement index

3. Discuss the need for quality enforcement

   a. To build acceptance

   b. To improve efficiency

   c. Disposing of traffic charge

4. Explain the collision diagram

   a. Purpose

   b. Preparation and maintenance

5. Explain the condition diagram

   a. Purpose

   b. Preparation and maintenance

APPLICATION:

6. Have students prepare a traffic enforcement bulletin from statistics contained in an accident summary sheet.

PRESENTATION:

VIII. Provided with various types of traffic radar units, demonstrate the "Tunig Fork" test for accuracy and perform one clocking operation with each of the various types of traffic radar provided.

1. Legality and operational principles of speed measuring devices

   a. Explain the legal and operating principles of the speedometer.

      (1) Legality of the speedometer

         (a) General reliability

         (b) General accuracy

      (2) Calibration Procedures

         (a) Required frequency

         (b) Methods Used

         (c) Range of speeds covered

(d) Recording procedures

(3) Use of the "Pace" (following) method of speed measurement

b. Explain the legal principles and operating procedures of RADAR.

(1) Two (2) types of radar

(a) True (Pulse) radar

(b) Doppler shift radar

(2) Use of Radar

(3) Problems with the use of radar.

(a) Types and effect of interference

(b) Angle error

(c) Radar detection/jamming devices

(4) Legal Aspects of Radar

(a) General accuracy of equipment

(b) Certification of radar devices

(c) Calibration/tests for accuracy

(d) Licensing/frequency authorization

(e) Qualification of Operators

2. General Rules of Evidence for Speed Measuring Devices

a. Identification of vehicle and driver

b. Officers working together on case

c. Warning Signs

d. Judicial Notice

3. Demonstrate the use of the hand-held and stationary/moving radar.

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APPLICATION:

4. Provided with various types of traffic radar units, demonstrate the "Tuning Fork" test for accuracy and perform one clocking operation with each of the various types of traffic radar.

EVALUATION:

5. Evaluate each student's achievement of the criterion objective.

PRESENTATION:

IX. Given situations involving the improper use of alcohol or drugs in traffic law, analyze and explain the appropriate countermeasures IAW Motor Vehicle Traffic Supervision (Joint Regulation).

1. Alcohol Safety Action Projects (ASAP).

   a. Responsibility

   b. Enforcement

2. Unlawful condition of drinking driver

   a. Problems of the drinking driver

   b. Techniques in detecting drinking drivers

   c. Introduce and show slide presentation, "Driving Under the Influence."

3. Drug and Alcohol Countermeasures

   a. Requirement for a conviction of driving under the influence

   b. Importance of recording observations

      (1) Manifestations of Alcohol

      (2) Manifestations of Drugs

      (3) Discuss use of DD Form 1920

   c. Discuss "Implied Consent Law"

   d. Introduce show, and critique film "Alco Beat" FLC 1-0204, and "Handling the Drug Abuser", TF 19-6726.

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e. Types of breath tests

(1) Qualitative

(2) Quantitative

4. Chemical test substances

a. Blood

b. Breath

c. Urine

d. Saliva

e. Spinal Fluid

f. Tissue (brain, liver).

5. Advantages and disadvantages in testing:

a. Blood

b. Urine

c. Breath

6. Explain alcohol in the human body and:

a. How alcohol is absorbed by the body

b. How alcohol is distributed through the body

c. The elimination of alcohol from the human body

APPLICATION:

7. Have students identify and explain alcohol or drug countermeasures IAW AFR 125-14 (Joint Regulation).

EVALUATION:

8. Evaluate each student's achievement of the criterion objective.

PRESENTATION:

X. Provided a breathalyzer/Intoxilizer and an operational checklist,

conduct one (1) chemical test of a person's breath.

1. Describe the breathalyzer

   a. Components

   b. Forms and records

   c. Materials required

   d. Using breathalyzer charts, discuss the theory of the instrument operation

2. Using the operational checklist, explain and demonstrate the procedures for preparing the breathalyzer for operation.

   a. Warm-up

   b. Ampule preparation

   c. Glass bubbler

   d. Flush out and analyze

   e. Adjust Null meter

   f. Set pointer

3. Explain and demonstrate procedures used to check breathalyzer by use of the simulator.

   a. Brief description of simulator

   b. Purpose and use

   c. Operation

4. Making analysis, explain and demonstrate the procedures in analyzing a breath specimen.

   a. Take

   b. Analyze

   c. Adjust light balance

   d. Blood alcohol scale

5. Describe the Intoxilyzer

a. Four Operational Modes

b. Computer-Printed Card

c. Materials Required

d. Using Intoxilyzer charts, discuss the theory of the instrument operation.

6. Using the operational checklist, explain and demonstrate the procedures for preparing the Intoxilyzer for operation.

a. Warm-up

b. Zero-set Adjustment

c. Flush the System

d. Zero Set

7. Explain and demonstrate procedures used to check Intoxilyzer with the Mark IV Simulator.

a. Brief description of simulator

b. Purpose and use

c. Operation

8. Making analysis, explain and demonstrate the procedures in analyzing a breath specimen.

a. Breath Mode

b. Air Blank

APPLICATION:

9. Provided a breathalyzer/Intoxilizer and an operational checklist. conduct one (1) chemical test of a person's breath.

EVALUATION:

10. Use operational checklist and evaluate each student's achievement of the criterion objective.

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PRESENTATION:

XI. Given the objective of traffic law enforcement, explain the factors that influence traffic behavior.

1. Discuss the primary objective of traffic law enforcement.

2. Discuss the four (4) beliefs required to support objective.

3. Discuss the five (5) "Stages of Interpretation" of traffic laws.

4. Discuss attitudes that effect traffic law enforcement.

   a. Public towards Police.

   b. Police towards Public.

APPLICATION:

5. Given the objective of traffic law enforcement, explain the factors that influence traffic behavior.

EVALUATION:

6. Evaluate student's achievement to the criterion objective.

CONCLUSION (10 Minutes)

Reemphasize main teaching points. Indicate, if any, the study assignments for the next unit of instruction.

L3AZR81172-001-3

PART II - TEACHING GUIDE

INTRODUCTION (10 Minutes)

Introduce your subject and let the students know what is expected of them. Explain that this part of the course will give them an understanding of traffic accident investigation related subjects.

BODY (71 Hours, 40 Minutes)

PRESENTATION:

I. Provided a diagram of an accident scene, explain the five (5) stages of planning at-scene investigations as they would apply to the diagram, IAW Exhibit 3-4, TAIM.

1. Discuss the following concerning planning for traffic accident investigation.

a. Definition

b. Advantages

c. Principles

d. Stages

e. Introduce, show and critique slide presentation "The Accident Scene"

APPLICATION:

2. Given the description of eight (8) traffic accidents, select the operational and conditional factor which the description supports IAW the TAIM.

EVALUATION:

3. Evaluate student's achievement of the criterion objective.

PRESENTATION:

II. Given the description of eight accidents, select for each accident the operational and condition factors which the description supports IAW TAIM.

1. Discuss the following concerning accident management background.

a. Accident management functions

b. Basic accident terminology

c. Introduce, show and critique film, "Accident Investigation I", FLC 1-0242

d. Accident reporting vs Accident Investigation

e. Accident Classifications

f. Describe the major events of an accident

g. Causes of traffic accidents

h. Introduce, show and critique film "The Final Factor", FLC 6-0148

APPLICATION:

2. Give each student eight accident situations and have them select for each the operational and condition factors.

EVALUATION:

3. Evaluate student's achievement of the criterion objective.

PRESENTATION:

III. Given a camera and an accident scene, each student will take four (4) accident photographs IAW the TAIM and FM 19-25, with no more than one (1) error in each photograph.

1. Purpose of accident photography.

a. Preserve Information

(1) Permanent, accurate, unbiased record

(2) Capture details

b. Record of Observations

(1) Recall details to the investigator's mind

(2) Aid in explaining to others what the investigator saw

c. Reservoir of Nondescript Information

(1) Supplements the accident report

(2) Record of details the investigator might not have noticed

2. Uses/abuses of accident photography

a. Uses of Photographs

(1) Credibility

(a) "Photos don't lie"

(b) Not subject to a loss of detail

(2) To Refresh Memory

(a) In preparation of report

(b) In court

(3) Writing and sketching a re-simplified

(4) Copying of documents

(5) Other uses

b. Abuses of Photographs

(1) Substitution for observations

(2) Substitution for measurements

3. Who makes accident photographs

a. Accident Investigator

b. CIS/OSI (crime lab) personnel

c. Commercial photographers

d. Personal equipment

e. Installation photo lab

f. Other sources of photographs

4. When to make accident photographs

a. Establishing photograph

b. Short-lived evidence

c. Flexability

5. What to make photographs of

a. General Considerations

(1) Relivant and material

(2) Avoid sensationalism

(3) Number of photographs determined by

(a) Type of accident

(b) Common sense of investigator

b. Establishing Shot

(1) The accident scene as the investigator first saw it

(2) As much of the accident scene as possible, i.e. vehicles, bodies, debris, etc.

(3) If possible, include an identifying landmark, i.e. street sign, telephone pole, bridge, culvert, large tree, etc.

c. Approach photograph

(1) What driver saw as he approached the accident scene

(2) View Obstructions

d. Final Position (vehicle (s) and/or bodies)

(1) Where and in what position

(2) May require a series of photographs

(3) If possible, include an identifying landmark, i.e. street sign, telephone pole, bridge, culvert, large tree, etc

e. Damage Photographs

(1) Two (2) reasons for damage photography

(a) To help reconstruct the accident

(b) To evaluate the probable cost of repairs

(2) Types of Damage

(a) Prior damage

(b) Accident damage

1. Contact

2. Induced

(c) Rescue damage

(d) Removal damage

(3) Types of Damage Photographs

(a) Best single picture

(b) Best two pictures

(c) Standard four pictures

(4) Close-up Photography

f. Results of Accident on Road

g. Series of Pictures

h. Photographic Overlay

6. Discuss the legal aspects of accident photography.

a. Authority to make photographs

(1) Public Property

(2) Private Property

(3) Restricted/Controlled Area

b. Use in Court

c. Care of film, negatives, and/or prints

d. Marking of negatives and/or prints

e. Disposition of spoiled negatives and/or prints

7. Care and operation of photographic equipment

a. Care of equipment

b. Use of equipment

c. Safety precautions

APPLICATION:

8. Given a camera and an accident scene, each student will take four (4) accident photographs IAW the TAIM and FM 19-25, with no more than one (1) error in each photograph.

EVALUATION:

9. Evaluate student's achievement of the criterion objective.

PRESENTATION:

IV. Given Five (5) sets of accident vehicles skidmarks, determine the minimum speed of the accident vehicles, within plus or minus 1 MPH.

1. Recording the facts and figuring out what happened

a. Estimating speed from physical evidence

b. Introduce, show and critique tape/slide presentation, "Determining Speed from Skidmarks"

c. Introduce, show and critique film, "Detecting and Recording Skidmarks", TF 19-4874

d. Use of the Speednomograph

e. Use of the speed formula

f. Use of the drag factor formula

APPLICATION:

2. Given Five sets of accident vehicle skidmarks, each student will determine the minimum speed of the accident vehicles, within plus or minus 1 MPH.

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EVALUATION:

3. Evaluate student's achievement of the criterion objective.

PRESENTATION:

V. Provided with a detailed description of a traffic accident scene, each student will draw a scale diagram, IAW the TAIM and FM 19-25.

1. Template and Calculator
   a. Identify origin
   b. Identify uses
      (1) Scales for drawing diagrams
      (2) Corresponding cutouts
      (3) Protractor
      (4) Speednomograph
      (5) Square root calculator
      (6) Superelevation calculator
      (7) Drawing radius of curves
2. Radius of Curves
   a. Identify radius formula
   b. Identify measurements needed
      (1) Chord
      (2) Middle ordinate
   c. Demonstrate formula
3. Field Sketch
   a. Determine reasons for field sketch
   b. Illustrate layout of field sketch

c. Identify pertinent data needed

d. Identify proper reconstruction methods

(1) Triangulation

(2) Grid method

4. Final scale diagram

a. Purpose of scale diagram

b. Scale most frequently used in the military

c. Identify pertinent data needed

(1) Data block

(2) Legend

(3) Scale

(4) North Indicator

APPLICATION:

5. Provided with a detailed description of a traffic accident scene, esw draw a scale diagram IAW TAIM and FM 19-25.

EVALUATION:

6. Evaluate student's achievement of the criterion objective.

PRESENTATION:

VI. Given the rules of evidence, explain the proper method for obtaining, marking, safeguarding and presenting evidence.

1. Proper method used in obtaining evidence.

2. Procedure used in marking evidence.

3. Importance and proper procedure for safeguarding evidence.

4. Presentation of evidence.

5. Introduce, show and critique film FLC 20-0174 "Traffic Officer In Court"

6. Introduce, show and critique slide tape presentation on "Testifying in Court"

APPLICATION:

7. Have students explain the proper method for obtaining, marking, safeguarding and presenting evidence.

EVALUATION:

8. Evaluate student's achievement of the criterion objective.

PRESENTATION:

VII. Given three (3) sets each of accident "VAULTS" and "FALLS", determine the minimum speed of the accident vehicles within plus or minus one (1) M.P.H.

1. Recording the facts at the scene of "VAULTS"

   a. Explain characteristics of vaults

   b. Identify the object which stopped forward movement

   c. Identify the landing site

   d. Explain method of measurement

   e. Estimating speed from physical evidence

2. Recording the facts at the scene of "FALLS"

   a. Identify begining of fall

   b. Identify end of fall

   c. Measurement of path of vehicle to impact

   d. Measurement of fall distance.

   e. Estimating speed from physical evidence

APPLICATION:

3. Given three sets each of accident "VAULTS" and "FALLS", each student will determine the minimum speed of the accident vehicles within plus or minus one (1) M.P.H.

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EVALUATION:

4. Evaluate student's achievement of the criterion objective.

PRESENTATION:

VIII. Provided with a DD Form 1805, DD Form 1408, AF Form 1315, DA Form 3946 and an accident scene, complete an accident investigation IAW TAIM and FM 19-25.

1. Discuss getting the facts:

a. Effects of driver and pedestrian conditions

b. Introduce, show and critique film, "Accd Inves II"

c. Interviewing drivers, witnesses and passengers

d. Introduce, show and critique film, "Questioning Drivers and Witnesses in Accident Cases:, FLC 17-0008

e. Road and weather conditions

f. Obtaining information from vehicles

g. What the traffic-way can show about the nature of the accident

h. Introduce, show and critique film, "Accident Investigation III", FLC 1-0244

2. Discuss preparation of accident related forms

a. DD Form 1805

(1) Magistrate's Summons

(2) Proper filling-out of form

(3) Disposition by patrolman

b. DD Form 1408

(1) Commanders' responsibilities

(2) Proper filling-out of form

(3) Disposition by patrolman

c. DD Form 3946

(1) Explanation on use of form

(2) Proper filling-out of form

(3) Introduce, show and critique film TF 19-6026, "Traffic Accident Cause and Analizsys, Part IV, Preparing Reports"

(4) Disposition by patrolman

d. AF Form 1315

(1) Explanation on use of form

(2) Proper filling-out of form

(3) Disposition by patrolman

APPLICATION:

3. Have students investigate a traffic accident scene, using the appropriate forms and equipment.

EVALUATION:

4. Evaluate student's achievement of the criterion objective.

PRESENTATION:

IX. Given the weights of three (3) accident vehicles and appropriate speeds, determine the minimum pre-collision speed of the accident vehicles within one (1) plus or minus M.P.H.

1. Obtaining, identifying and recording the facts at the scene

a. Obtaining weights of vehicles

b. Compute minimum speed and direction after collision

c. Approach path of each vehicle to collision point

d. Dimensions of vehicles and damage

e. Estimating speed from evidence found

APPLICATION:

2. Given three sets of vehicle weights and one set of speeds, each

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student will determine the minimum pre-collision speed of the accident vehicles within one (1) M.P.H.

EVALUATION:

3. Evaluate student's achievement of the criterion objective.

PRESENTATION:

X. Given ten (10) situations involving accident vehicles leaving skidmarks over two (2) surfaces, determine the combined speeds of the vehicles within plus or minus one (1) M.P.H.

1. Recording the facts and figuring out what happened.

   a. Estimating speed from physical evidence

   b. Use of the combined speed formula

APPLICATION:

2. Given ten situations of accident vehicles with skidmarks over two surfaces each student will determine the combined minimum speeds of the vehicles within one (1) M.P.H.

EVALUATION:

3. Evaluate student's achievement of the criterion objective.

CONCLUSION (10 Minutes)

Reemphasize main teaching points. Indicate, if any, the study assignments for the next unit of instruction.

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PART II - TEACHING GUIDE

INTRODUCTION (10 Minutes)

Introduce your subject and explain that this lesson is to provide the students with the purpose of traffic control studies, warrants for traffic controls, and determining the adequacy/inadequacy of traffic control devices.

BODY (12 Hours, 40 Minutes)

PRESENTATION:

I. Given Six (6) traffic control situations, determine the warrants for each situation and develop the proper traffic controls IAW Motor Vehicle Traffic Supervision (Joint Regulation) and the Manual on Uniform Traffic Control Devices for Streets and Highways.

1. Responsibilities of traffic controls and planning

2. Purpose of traffic controls in traffic planning

   a. Motorized traffic patrols

   b. Traffic Control Points (TCP)

   c. Types of traffic control devices

      (1) Signs

      (2) Signals

      (3) Pavement markings

      (4) Introduce and show tape/slide presentation, "Traffic Control Devices"

3. Five basic requirements of traffic control devices

   a. Fulfill a need

   b. Command attention

   c. Convey a clear simple meaning

   d. Command respect of road users

   e. Give adequate time for proper response

4. Responsibility for traffic control devices

a. Installation Commander

b. State Officials

c. Installation Engineers

5. Engineering study required

6. Word meaning of:

a. Shall

b. Should

c. May

7. Relationship of the Manual on Uniform Traffic Control Devices for Streets and Highways to other documents

8. Traffic control devices

a. Signs

b. Signals

c. Pavement markings

9. Development of Traffic Plans

a. Normal loading routes

b. Peal loading routes

c. Traffic direction for special events

d. Traffic direction for adverse road and weather conditions

e. Traffic direction for schools

(1) Law Enforcement personnel

(2) Traffic wardens

(3) Trained Adults

f. Use of available parking facilities

g. Use of mass transportation facilities

h. Use of traffic control devices

(1) Signs

(2) Signals

(3) Pavement markings

10. How traffic engineering prevents accidents

APPLICATION:

11. Each student will determine the warrants for six (6) traffic controls IAW AFR 125-14 and the Manual on Uniform Traffic Control Devices for Streets and Highways.

EVALUATION:

12. Evaluate each student's achievement of the criterion objective.

PRESENTATION:

II. Given twelve (12) types of traffic studies, determine the purpose for each of the studies, IAW FM 19-25.

1. Techniques and Factors in Traffic Planning

a. Introduce, show and critique film "Traffic Control", TF 19-3541.

b. The three "E's" of traffic planning.

(1) Engineering

(2) Education

(3) Enforcement

2. Purposes of traffic studies

a. Provides a sound basis for analyzing specific traffic problems

b. Measurement of effects of changes in traffic controls or facilities

c. Provides basic planning data

3. General procedures in the planning and conducting of traffic studies

a. Determine the cause, type and extent of the study or studies to be conducted.

b. Determine the who, how and when of the study or studies.

c. Important considerations in planning for traffic studies.

(1) Public Relations Requirements

(2) Equipment

(3) Selection and Training of Personnel

d. Analyzing of data, making recommendations and follow-up action

4. The twelve (12) types of traffic studies.

a. Traffic Control Devices Study

(1) Purpose

(2) Requirement for study

(3) Personnel and equipment

b. Origin-Destination Study

(1) Purpose

(2) Requirement for study

(3) Personnel and Equipment

c. Speed-Delay Study

(1) Purpose

(2) Requirement for study

(3) Personnel and equipment

d. Roadway Capacity Study

(1) Purpose

(2) Requirement for study

(3) Personnel and equipment

e. Vehicle Occupancy Study

(1) Purpose

(2) Requirement for study

(3) Personnel and equipment

f. Pedestrian Study

(1) Purpose

(2) Requirement for study

(3) Personnel and equipment

g. Observation of Stop Sign Study

(1) Purpose

(2) Requirement for study

(3) Personnel and equipment

h. Observation of Traffic Signals Study

(1) Purpose

(2) Requirement for study

(3) Personnel and equipment

i. Parking Study

(1) Purpose

(2) Requirement for study

(3) Personnel and equipment

j. Accident Report Study

(1) Purpose

(2) Requirement for Study

(3) Personnel and equipment

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k. Motor Vehicle Volume Study

(1) Purpose

(2) Requirement for study

(3) Personnel and equipment

l. Speed Study

(1) Purpose

(2) Requirement for study

(3) Personnel and equipment

APPLICATION:

5. Given twelve (12) types of traffic studies, determine the purpose of each study IAW FM 19-25.

EVALUATION:

6. Evaluate each student's achievement of the criterion objective.

PRESENTATION:

III. Given the necessary field data from a speed study, determine the optimum safe speed and the minimum safe speed based on the 85th percentile and the 15th percentile IAW FM 19-25, within One (1) M.P.H.

1. Motor Vehicle Volume Study

a. Methods of conducting study

b. Evaluation of data collected

2. Speed Study

a. Methods of conducting study

b. Evaluation of data collected

(1) 85th Percentile Speed

(2) 15th Percentile Speed

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APPLICATION:

3. Given the necessary data from a vehicle volume study and a speed study determine the proper traffic control for an intersection and the 85th and 15th percentile speeds for the roadway.

EVALUATION:

4. Evaluate each student's achievement of the criterion objective.

CONCLUSION (10 Minutes)

Reemphasize main teaching points. Indicate, if any, the study assignments for the next unit of instruction.

END OF DAY SUMMARY

Summary	1. Restate objectives of the lesson
	2. Emphasize the areas of major importance
	3. Use oral questions to determine areas to be retaught
Assignment	1. Identify study material
	2. Give cause for student to study assignment
	3. Mention method of study

INTRODUCTION TO NEW DAY's WORK

1. Arouse student interest.
2. Review items of major importance.
3. State objectives to be covered on this particular day.
4. Continue presentation beginning where it ended the previous day.

PLAN OF INSTRUCTION/LESSON PLAN PART I

NAME OF INSTRUCTOR	COURSE TITLE
	Traffic Management & Accident Inves.

BLOCK NUMBER	BLOCK TITLE
I	

1 COURSE CONTENT	2 TIME
2. Traffic Law Enforcement	44
a. Given the UVC, TLA, and a list of "Rules of the Road" identify which of the listed "Rules of the Road" from your state traffic code are in conformity with the UVC and could be assimilated on your installation with no more than four (4) errors. CTS: 1a, Meas: W, PT	(6)
b. Given the UVC, TLA, and a list of five (5) "Rules of the Road" develop the "Rules of the Road" section of your installation traffic code assimilating three (3) of the five (5) rules given. CTS: 1a, Meas: W, PT	(5)
c. Given six (6) driver behavior situations, determine the legality or illegality of each situation and apply the appropriate traffic law violation, if any, with no more than two (2) errors. CTS: 1c, Meas: W, PT	(14)
d. Given the location of thirty six (36) vehicle accidents, prepare an accident spot map IAW AFR 125-19 and FM 19-25. CTS: 1d, Meas: PT	(2)
e. Given a list of five hundred seventy four (574) accidents involving thirteen (13) types of violations, prepare a table listing the violations by degree IAW FM 19-25. CTS: 1d, Meas: PT	(5)
f. Given the number of moving violations and the number of accidents occuring for the same period, compute the Traffic Enforcement Index IAW FM 19-25. CTS: 1d, Meas: PT	(5)
g. Given the statistical data on vehicle accidents and violations for a one month period, analyze the data and prepare a traffic enforcement bulletin IAW AFR 125-19 and FM 19-25. CTS: 1d, Meas: PT	(4)
h. Provided with various types of traffic radar units, demonstrate the "Tuning Fork" test for accuracy and perform one (1) clocking operation with each of the various types of traffic radar provided. CTS: 1e, Meas: W, PT	(5)
i. Given situations involving the improper use of alcohol or drugs in traffic law, analyze and explain the appropriate counter-measures IAW Motor Vehicle Traffic Supervision (Joint Regulation). CTS: 1f, Meas: W	(3)

SUPERVISOR APPROVAL OF LESSON PLAN (PART II)

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j. Provided a breathalyzer/intoxilizer and an operational checklist, conduct one (1) chemical test of a person's breath. (3)
CTS: 1g, Meas: W, PT

k. Given the objective of traffic law enforcement, explain the factors that influence traffic behavior. CTS: 1b, Meas: W (1)

SUPPORT MATERIALS AND GUIDANCE

Student Instructional Materials

Uniform Vehicle Code/Model Traffic Ordiance w/supplement (UVC/MTO)
Vehicle Traffic Law (VTL)
Traffic Laws Annotated (TLA)
FM 19-25, Military Police Traffic Operations
Motor Vehicle Traffic Supervision (Joint Regulation)
AFR 110-15, Use of US Magistrates for trial of minor offenses committed by civilians.
AR 190-29, Minor offenses and uniform violation notices referred to US District Courts
Legal Aspects of Speed Measurement Devices
SHO 3AZR81172-001, Breathalyzer/Intoxalyzer operational Checklist
WB, L3AZR81170-001, Traffic Management/Accident Investigation

Audio Visual Aids

Chart: Breathalyzer/Intoxalyzer
Cassette/35MM Slides: Driving under the Influence
Films: FLC 1-0204, ALCO-BEAT
TF-19-4732, Spot Map, FLC 8-0115 Hit and Run Investigations
TF-19-6726, Handling the Drug Abuser
35MM Slides: Traffic Standards
Speed Measurement Devices
Accident Management Background
Planning for Accident Investigation
Hit & Run Investigations

Training Equipment

Stopwatch (4)
Tape Measure (2)
Sedan (5)
Van (7)

SUPPORT MATERIALS AND GUIDANCE (CONT'D)

Breathalyzer (5)
Intoxalyzer (5)
Alco-Sensor (5)
Simulator (5)
Base Map (1)
Speedgun (4)
MR-7 (5)

Training Methods
Discussion (36 hrs)
Performance (8 hrs)

Multiple Instructor Requirements
Safety, Equipment, Supervision (7)

Instructional Guidance
MIR: Two (2) instructors are required to monitor completion of the criterion objective on speed measurement devices. When operating equipment and vehicles, safety must be emphasized at all times. A student/instructor ratio of 10 to 1 is required during breathalyzer/intozalyzer performance training. Students are utilizing cameras at the accidents scenes which requires continuous observation of photographic techniques. Each group is divided into three sub-groups.

PLAN OF INSTRUCTION/LESSON PLAN PART I

NAME OF INSTRUCTOR	COURSE TITLE
	Traffic Management/Accident Inves.

BLOCK NUMBER	BLOCK TITLE
I	

1 COURSE CONTENT	2 TIME
3. Traffic Accident Investigation	72
a. Provided a diagram of an accident scene, explain the five (5) stages of planning at-scene investigations as they would apply to the diagram, IAW Exhibit 3-4, TAIM. CT: 2a, Meas: W, PT	(3)
b. Given the description of eight (8) traffic accidents, select the operational and conditional factor which the description supports IAW TAIM. CTS: 2a, Meas: W, PT	(6)
c. Given a camera and an accident scene, each student will take four (4) accident photographs IAW the TAIM and FM 19-25, with no more than one (1) error in each photograph. CTS: 2b, Meas: W, PT	(4)
d. Given Five (5) sets of accident vehicle skidmarks, determine the minimum speed of the accident vehicles within plus or minus one (1) MPH. CTS: 2b, Meas: W, PT	(3)
e. Provided with a detail description of a traffic accident scene, each student will draw a scale diagram IAW the TAIM and FM 19-25. CTS: 2b, Meas: W, PT	(20)
f. Given the Rules of Evidence, explain the proper method for obtaining, marking, safeguarding and presenting evidence. CTS: 2b, Meas: W	(4)
g. Given Three (3) sets of accident valuts and falls, determine the minimum speed of the accident vehicles within plus or minus one (1) MPH. CTS: 2b, Meas: W, PT	(3)
h. Provided with a DD Form 1805, DD Form 1408, AF Form 1315, DA Form 3946 and an accident scene, complete an accident investigation IAW TAIM and FM 19-25. CTS: 2b, Meas: W, PT	(23)
i. Given the weights of three (3) accident vehicles and appropriate speeds, determine the minimum pre-collision speed of the accident vehicles within plus or minus one (1) MPH. CTS: 2b, Meas: PT	(4)
j. Given ten (10) situations involving accident vehicles leaving skidmarks over two (2) surfaces, determine the combined speeds of the vehicles within plus or minus one (1) MPH. CTS: 2b, Meas: PT	(2)

SUPERVISOR APPROVAL OF LESSON PLAN (PART II)

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SUPPORT MATERIALS AND GUIDANCE

Student Instructional Materials

Traffic Accident Investigator's Manual
FM 19-25, Military Police Traffic Operations
Motor Vehicle Traffic Supervision (Joint Regulation)
Forms: DD Form 1805, Uniform Traffic Violation Notice
DD Form 1408, Armed Forces Traffic Ticket
AF Form 1315, Accident Investigation Report
DA Form 3946, Accident Investigation Report
WB 3AZR81172-001, Traffic Management/Accident Investigation
AFR 125-19, Law Enforcement Patrols and Traffic Services
AFR 110-15, Use of Magistrates for Trial of Minor Offenses committed by Civilians
AR Reg 190-29, Minor Offenses and Uniform Violation notices referred to US District Courts

Audio Visual Aids

Cassette/35MM Slides: The Accident Scene
Skidmark Evidence
Testifying in Court

Films: FLC 1-0242, Accident Investigation I
FLC 1-0243, Accident Investigation II
FLC 1-0244, Accident Investigation III
FLC 4-0097, Detecting and Recording Skidmarks
FLC 6-0148, The Final Factor
FLC 17-008, Questioning Drivers & Witness in Accident Cases
TF 19-6023, Traffic Accident Cause and Analizsys, Pt I, Contributing Causes
TF 19-6025, Traffic Accd Cause and Analizsys, Pt III, Securing facts
TF 19-6026, Trf Accd Cause and Analizsys, Pt IIII, Preparing Reports
FLC 20-0174, Traffic Officer in Court
Mock-Ups: Enlarged Template and Calculator

Training Equipment

Compass (1)
Template (1)
Tape Measure (2)
Sedan (5)
Van (7)
Camera, Polaroid (4)

Training Methods

Discussion (39 hrs)
Performance (33 hrs)

SUPPORT MATERIALS AND GUIDANCE (CONT'D)

Multiple Instructor Requirements
Safety, Equipment, Supervision (10)

Instructional Guidance
MIR: A student/instructor ratio of 10 to 1 is required to provide supervision and expertise on various items of equipment utilized at the mock accident scene. Additionally, safety must be continuously stressed around the accident scenes. During the determination of minimum speed classes, a student/instructor ratio of 10 to 1 is required for the last two hours. For the performance portion of template training, a student/instructor ratio of 10 to 1 is required.

PLAN OF INSTRUCTION/LESSON PLAN PART I

NAME OF INSTRUCTOR	COURSE TITLE
	Traffic Management & Accident Inves.

BLOCK NUMBER	BLOCK TITLE
I	

1 COURSE CONTENT	2 TIME
4. Traffic Control	13
a. Given six (6) traffic control situations, determine the warrants for each situation and develop the proper traffic controls IAW Motor Vehicle Traffic Supervision (Joint Regulation) and the Manual on Uniform Traffic Control Devices for Streets and Highways. CTS: 3a, Meas: W, PT	(8)
b. Given twelve (12) types of traffic studies, determine the purpose for each of the studies, IAW FM 19-25. CTS: 3b, Meas: W, PT	(4)
c. Given the necessary field data from a speed study, determine the optimum safe speed and the minimum safe speed based on the 85th percentile and the 15th percentile IAW FM 19-25, within One (1) MPH. CTS: 3b, Meas: W, PT	(1)

SUPPORT MATERIALS AND GUIDANCE

Student Instructional Materials
FM 19-25, Traffic Operations
Motor Vehicle Traffic Supervision (Joint Regulation)
Manual on Uniform Traffic Control Devices for Streets and Highways
WB L3AZR81172-001, Traffic Management/Accident Investigation

Audio Visual Aids
35MM Slides: Traffic Control Devices
Traffic Control Studies
Films: TF 19-3541A, Traffic Control

Training Equipment
Stopwatch (4)
Sedan (5)
Van (7)

SUPERVISOR APPROVAL OF LESSON PLAN (PART II)

SIGNATURE AND DATE	SIGNATURE AND DATE

PLAN OF INSTRUCTION NUMBER	DATE	PAGE NO.
L3AZR81172-001	25 JUL 1978	9

ATC FORM OCT 75 133 PREVIOUS EDITION IS OBSOLETE

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SUPPORT MATERIALS AND GUIDANCE (CONT'D)

Training Methods
Discussion (10 hrs)
Performance (3 hrs)

Multiple Instructor Requirements
Safety, Equipment, Supervision (2)

Instructional Guidance
MIR: An instructor/student ratio of one per ten is required for adequate supervision while students are performing traffic studies from facts provided.

5. Related Training (Identified in Course Chart)	1
6. Measurement Critique	3
a. Measurement Test	
b. Test Critique	
7. Course Critique and Graduation	2

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WORKBOOK

L3AZR81172-001

Technical Training

TRAFFIC MANAGEMENT
AND
ACCIDENT INVESTIGATION

2 AUG 1978

USAF SCHOOL OF APPLIED AEROSPACE SCIENCES
USAF Security Police Academy
Lackland Air Force Base, Texas

USAF Security Police Academy
Lackland AFB, Texas 78236

WB 3AZR81172 001

TRAFFIC MANAGEMENT & ACCIDENT INVESTIGATION

INTRODUCTION

The Traffic Management & Accident Investigation course is a 3 week 2-day course. This course provides technical training for Air Force personnel who possess AFSC 81152, 81172, and 81199 and who are in the grades E-4 and above. Army personnel who possess MOS 95B20, 95B40 or 95B50; Marine Corps personnel who possess MOS 5811 or 5813; and Navy personnel who are designated as Master-At-Arms. Training includes development of installation vehicle codes and traffic flow plans, analysis of traffic trends and accident causes, planning/conducting traffic accident investigations and application of procedures in preparing and maintaining traffic reports and records. We are certain you will find the knowledge gained from this course most helpful in your future assignments.

ORIENTATION

OBJECTIVES

Welcome Students

Introduce Course Officials

Academy/Base Police and Procedures

Student Responsibilities/Safety

Course Overview/ATC Evaluation

Types and Uses of Instructional Materials

Learning Center

Community College of the Air Force (CCAF)

Critique Program

Conservation of Training Materials, Resources, and Energy

Personal and Professional Integrity

USAF Graduate Evaluation Program

STUDY ASSIGNMENT

None

TRAFFIC LAW ENFORCEMENT, TRAFFIC ACCIDENT INVESTIGATION, AND TRAFFIC CONTROL

OBJECTIVE

Given the UVC, TLA, and a list of "Rules of the Road" identify which of the listed "Rules of the Road" from your state traffic code are in conformity with the UVC and could be assimilated on your installation with no more than four (4) errors.

You must accomplish the following situations so you can determine the requirements for implementation of the U.S. Magistrate System on your installation.

STUDY ASSIGNMENT

Motor Vehicle Traffic Supervision (AFR 125-14, AR 190-5, MCO 5110.1B, OPNAVINST 11200.5B)

Chapter	Page(s)	Topic(s)
1	1-1	Paragraph 1-3a
4	4-1	Paragraph 4-3a

Vehicle Traffic Law - E.C. Fisher

Chapter	Page(s)	Topic(s)
3	17 & 18	Purpose of Traffic Laws
5	28 - 31	Introduction thru Injurious Effect of Inadequate Laws
6	47 & 48	Highway Safety Act of 1966
8	80 - 83	Federal Officers & Employees
9	100 - 101	Federal Land thru some Statutory Offenses Not Limited to Highways
10	109	Courts-Martial and Civil Courts

SITUATION 1. Utilizing the UVC and comparable sections of the TLA, identify which of the following sections of the UVC are in conformity, general conformity, or do not conform with the comparable sections of your state traffic code. Indicate in the space provided "Conforms", "General Conformity", or "Does Not Conform".

a. Section 1-122 - Highway

b. Section 1-134 - Motor Vehicle

c. Section 1-184 - Vehicle

d. Section 11-101 - Provisions of Chapter Refer to Vehicles Upon the Highway - Exceptions

e. Section 11-106 - Authorized Emergency Vehicle

f. Section 11-401 - Vehicle Approaching or Entering Intersection

g. Section 11-404 - Vehicles Entering Roadway

h. Section 11-801 - Basic Rule

i. Section 11-808 - Racing on Highways

j. Section 11-901 - Reckless Driving

k. Section 11-904 - Fleeing or Attempting to Elude a Police Officer

SITUATION 2. Utilizing the UVC and TLA identify which of the following paragraphs of Section 11-902, Driving Under the Influence of Alcohol or Drugs, are in conformity, general conformity, or do not conform with the comparable sections of your state traffic code. Indicate in the space provided "Conforms", "General Conformity", or "Does Not Conform".

a. 11-902(a)1:

b. 11-902(a)2:

I.

II.

III.

IV.

V.

c. 11-902(a)3:

d. 11-902(a)4:

e. 11-902(b):

f. 11-902(c):

OBJECTIVE

Given the UVC, TLA, and a list of five (5) "Rules of the Road" develop the "Rules of the Road" section of your installation traffic code assimilating three (3) of the five (5) rules given.

PROCEDURE

You must accomplish the following situation so you can develop an installation traffic regulation that meets the requirements for implementation of the magistrate's system on your installation.

SITUATION 1. Given the UVC and the TLA, utilizing three of the five "Rules of the Road" that can be assimilated on your installation, develop the "Rules of the Road" section for your installation traffic regulation with 100% accuracy.

a. Section 11-103 - Obedience to Authorized Persons Directing Traffic

b. Section 11-401 - Vehicle Approaching or Entering Intersection

c. Section 11-705 - Emerging from Alley, Driveway or Building

d. Section 11-801 - Basic Rule

e. Section 11-901 - Reckless Driving

OBJECTIVE

Given six (6) driver behavior situations, determine the legality or illegality of each situation and apply the appropriate traffic law violation, if any, with no more than two (2) errors.

PROCEDURE

You must accomplish these situations so that you can determine which of the various acts, omissions, conditions and/or circumstances are required to be established in traffic offenses.

STUDY ASSIGNMENT

Vehicle Traffic Law - E.C. Fisher

Chapter	Page(s)	Topec(s)
11	122 - 124	Introduction thru Intent and Guilty Knowledge
12	135 - 140	Purpose of Speed Law Enforcement thru Sign Zoning
13	153 - 157	Introduction thru Yield Right-of-Way Sign
14	171 - 178	Introduction thru Combined Influence of Alcohol and other Drugs
15	189 - 198	Elements of the Offense thru Death, Personal Injury, or Property Damage
16	208 - 211	Part 1: Introduction thru Summary of Reckless Driving
	215 - 218	Part 3: Introduction thru Uniform Vehicle Code-Homicide by Vehicle
20	288	Aiding and Abetting is Not Offense in Itself
	289	Owner, Employer, or Person in Position to Control

WORK ASSIGNMENT

SITUATION 1. You are assigned to an installation in a state that is in strict compliance with the Uniform Vehicle Code (UVC). You are on routine patrol and observe a vehicle parked on the shoulder of the road. As you stop and approach the vehicle on foot, you notice a man in the driver's seat of the vehicle apparently asleep. You awaken him and subsequent events lead you to believe he is intoxicated. He refuses to submit to a blood, breath, or urine test. Has any traffic violation been committed and, if so, what is the violation?

SITUATION 2. You are notified to respond to the scene of an accident involving a single vehicle. The investigation reveals that the driver turned off of a major road via an exit ramp. He failed to negotiate the turn, ran off the road and struck a utility pole. The exit ramp is posted with a large, square, yellow and black sign which states "EXIT - SLOW 35 MPH". Has any traffic violation been committed and, if so, what is the violation?

SITUATION 3. You are dispatched to investigate an accident which has occurred at a controlled intersection. Upon arrival at the scene, you observe that two vehicles have been involved in a collision in the center of the intersection. The operator of one of the vehicles appears to have failed to stop his vehicle for a Stop Sign. As you park your patrol vehicle, this driver (Driver #1) runs up to you and states that he had stopped for the sign, and as he proceeded into the intersection, he was struck by this "Crazy Nut" who was going so fast he never had a chance to avoid the collision. Your subsequent investigation reveals that Driver #2, the "Crazy Nut", was in fact driving on a through street at a minimum 43 MPH in a 35 MPH zone. What violations, if any, have been committed, and who would you cite?

SITUATION 4. You are investigating an accident involving a pedestrian and a vehicle. The statements of the driver of the vehicle and the pedestrian, who have both been injured, indicate that the operator of the vehicle swerved off the roadway onto the sidewalk to avoid a collision with a second vehicle, proceeding in the opposite direction, that had crossed the double yellow center line into his lane of traffic. The statements of other witnesses substantiate these facts. One witness gives the license number of the second vehicle to you and you cannot locate it at the scene. What violations, if any, have been committed, and who would you cite?

SITUATION 5. An individual is proceeding through an on-base housing area at 15 MPH in a 20 MPH zone. It is a clear day; the pavement is dry; and while there is no traffic, vehicles are parked on both sides of the street. As the driver approaches a cross street a small child runs from between two parked cars into the path of the oncoming vehicle. The vehicle strikes the child and he is killed. Subsequent investigation supported by the testimony of a witness indicates that the vehicle was approximately 20 feet from the child when he first became visible to the driver. What violations, if any, have been committed, and who would you cite?

SITUATION 6. An E-5 is late for duty. A heavy snow fell last night. In a hurry, he cleans a small patch of snow from his windshield. Snow is caked over the entire car. Ice and snow cover the street. He drives through a school zone at a time when small children are present in the area. He knows that the speed limit is 15 MPH, but proceeds through the school zone at 25 MPH. What should the driver be cited for?

OBJECTIVE

Provided with various types of traffic radar units, demonstrate the "Tuning Fork" test for accuracy and perform one (1) clocking operation with each of the various types of traffic radar provided.

PROCEDURE

This work assignment is designed to provide you with the background and a familiarization with the various types of traffic radar currently being used within the Department of Defense.

STUDY ASSIGNMENT

Military Police Traffic Operations, FM 19-25

Chapter 6	Pages 30 - 33	Speed Measuring Devices

Law Enforcement Patrols and Traffic Services, AFR 125-19

Paragraph 25	Page 6	Use of Radar in Traffic Law Enforcement
Paragraph 31h	Page 7	Testing & Calibration of Speedometers
Attachment 4	Page 14	Procedures for Use of Radar

Legal Aspects of Speed Measuring Devices, E.C. Fisher

Part I-B	Pages 11 - 13	Radar
Part III-B.1	Pages 23 - 26	Judicial Notice
Part III-B.2	Pages 26 - 28	Testing for Accuracy
Part III-B.4	Pages 31 - 34	Tuning Fork
Part III-B.6	Pages 35 - 38	Qualifications of Operator
Part III-B.7	Pages 38 - 40	Identification of Vehicle and Driver
Appendix III	Page 76	Suggested List of Questions to be Used in Qualifying Radar Operator for Giving Testimony in Court

WORK ASSIGNMENT

QUESTIONS

1. "True" Radar is commonly known as _____ type and emits a _____ of electro magnetic radiation at regular intervals which are reflected from the target.

2. All police traffic radar operates on the "_____ _____" principal.

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3. It is elementary law that if a particular fact is so generally known as to be a matter of common knowledge it will be _____ _____ by the courts.

4. In order to testify in court it is sufficient to qualify the operator of a police traffic radar that he have such knowledge and training as enables him to properly _____ _____, _____, AND _____ the equipment.

5. What three (3) things may occur if a tuning fork is struck on a surface that is harder than the fork itself?

a. _____

b. _____

c. _____

OBJECTIVE

Given a camera and an accident scene, each student will take four (4) accident photographs IAW the TAIM and FM 19-25, with no more than one (1) error in each photograph.

PROCEDURE

The purpose of this work assignment is to provide you with the background, legal requirements, and the basic knowledge necessary to take accident investigation photographs. Accident investigation photography is an excellent tool to aid the investigator and it is essential that he know how to take the required photographs or direct others to take the proper pictures.

STUDY ASSIGNMENT

FM 19-25 Chapter 9 Pages 65-66

Traffic Accident Investigator's Manual Chapter 8 Pages 173 - 182

WORK ASSIGNMENT

QUESTIONS

1. What are the three (3) ways that photographs are used?

   a. _____

   b. _____

   c. _____

2. Photographic prints that are to be used in court may be marked in three (3) ways; what are they?

   a. _____

   b. _____

   c _____

3. What are the three (3) types of accident damage photographs?

   a. _____

   b. _____

   c. _____

4. Prior to taking photographs of a vehicle when it is on its owner's private property, the investigator must obtain:

   a. _____

   b. _____

WB L3AZR81172 001

OBJECTIVE

Given situations involving the improper use of alcohol or drugs in traffic law, analyze and explain the appropriate countermeasures IAW Motor Vehicle Traffic Supervision (Joint Regulation).

PROCEDURE

This phase of your training is intended to provide you with an understanding of the drug and alcohol enforcement countermeasures program, in an effort to minimize the contribution of alcohol and drugs as cause factors in traffic accidents.

STUDY ASSIGNMENT

Joint Regulation

Chapter 2, pages 2-1 through 2-2
Chapter 4, pages 4-2 para 4-5
Chapter 6, pages 6-3 through 6-4

WORK ASSIGNMENT

QUESTIONS

1. What is the objective of ASAP?

2. Who prescribes the type or types of chemical test to be administered on a military installation?

3. What form will be used to examine, interpret and record the results of alcoholic influence?

Using the Motor Vehicle Traffic Supervision Regulation, you are to analyze and explain each of the following situations in the space provided. Answer each of the situations as completely as possible.

SITUATION 1. A law enforcement officer lawfully apprehends a person for driving under the influence. The apprehended person requests that a chemical test of his/her blood, breath or urine for the purpose of determining the alcoholic content. Must the law enforcement officer comply with request? Why?

SITUATION 2. A law enforcement officer administers a breath test to a suspect and it is obvious that he/she is under the influence, but the results of the test are negative. What action must be taken and why?

SITUATION 3. You respond to the scene of a motor vehicle traffic accident and the driver of one of the vehicles has been transported to the hospital. Upon your arrival at the hospital the driver is still unconscious. Can you, a law enforcement officer, request a blood test of the driver's blood for the sole purpose of determining the alcoholic content? Why?

SITUATION 4. You are on patrol at your installation and lawfully apprehend a person suspected of driving under the influence. You warn and advise the person of the implied consent law. Does the person have the right to have an attorney present before stating whether or not he/she will submit to a test, or during the administration of the test? Why?

SITUATION 5. You are the D/Sgt, you have a copy of a report which has charged Sgt Alpha with, "driving under the influence" and "failure to stop at a posted stop sign." Included in the report is a DD Form 1920, identifying the suspect's conditions at the time of apprehension and a statement by the patrolman identifying that Sgt Alpha had either refused to submit to, or failed to complete a chemical test after being requested to do so. Sgt Alpha's company/squadron commander calls and wants the individual to receive 18 months revocation for the "DUI" charge and refusing the chemical test. In addition, the commander wants four points assessed for failure to stop at a posted stop sign. What would be your answer to the commander and why?

Instructor's Initials _____.

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OBJECTIVE

Provided a breathalyzer/Intoxilizer and an operational checklist, conduct one (1) chemical test of a person's breath.

PROCEDURE

The purpose of this work assignment is to provide you with the basic knowledge necessary to operate a chemical breath-testing device. Chemical breath-testing devices are becoming more and more essential in the area of traffic law enforcement for purposes of identifying the drinking driver.

STUDY ASSIGNMENT

Joint Regulation, Appendix C and E.

WORK ASSIGNMENT

QUESTIONS

1. How long must you observe a suspect before taking a breath sample?

2. What temperature must be shown on the sample chamber thermometer before you can operate the breathalyzer?

SITUATION 1. Provided with a breathalyzer unit, breathalyzer simulator and an operational checklist, conduct one chemical test with 100 percent accuracy.

NOTES:

Instructor's Initials _____

OBJECTIVE

Given the description of eight (8) traffic accidents, select the operational and conditional factor which the description supports IAW the TAIM.

PROCEDURE

You must complete the work assignment so that you will be able to determine the causes of traffic accidents.

STUDY ASSINGMENT

Traffic Accident Investigation Manual (TAIM)
Pages 271 through 281

WORK ASSIGNMENT

You are given the description of eight traffic accidents. Write the operational and condition factors for each accident in the space provided.

NOTE: In accident situations 5 and 6, show the operational and condition factors for both traffic units involved.

ACCIDENT 1. A driver was persuaded by friends to drink more than usual at a wedding. He stayed longer than he intended at the reception. To save time on the way home, he drove through a filling station pump area on a corner where he wanted to turn right. He did this so that he would not have to wait for a red light. He had never done such a thing before. He failed to notice that a driver in a car at the gas pump was about to get out. He hit the door of this car as it opened in front of him while he was driving past.

ACCIDENT 2. A car was going 30 mph under a railroad overpass with a street parallel to the embankment close to it on the other side. While he was under the overpass, he sees a car as it comes into view on his right. He puts on his brakes and skids his wheels but cannot stop before he hits the other car.

OPERATIONAL FACTORS

Trip Preparation: _____

_____

Driving Stragety: _____

_____

Evasive Action: _____

_____

CONDITIONAL FACTORS

Driver: _____

Vehicle: _____

Trafficway: _____

ACCIDENT 3. A man decided to spend Saturday fishing with friends 400 miles away. He left work at 5:30 p.m. Friday and deove steadily until about 2:30 a.m., when he dozed off to sleep, he ran off the road and struck a tree 30 ft off to the side.

OPERATIONAL FACTORS

Trip Preparation: _____

_____

Driving Stragety: _____

_____

Evasive Action: _____

_____

CONDITIONAL FACTORS

Driver: _____

Vehicle: _____

Trafficway: _____

ACCIDENT 4. A motorist on a street zoned for 15 mph was driving 25 mph. He came to a stop street where there was no view obstruction. He did not stop at the stop sign and struck another car which he did not see until half a second before he hit it. He did not see the stop sign.

OPERATIONAL FACTORS

Trip Preparation: _____

_____

Driving Stragety: _____

_____

Evasive Action: _____

_____

CONDITIONAL FACTORS

Driver: _____

Vehicle: _____

Trafficway: _____

ACCIDENT 5. A woman who has just received her drivers license tries to parallel park between two cars. She is very slow and the waiting car behind her sounds his horn to hurry her up because oncoming traffic makes it impossible for him to go around. She decides to give up parking in that spot and go somewhere else. Forgetting that her car had been in reverse for the parking operation, she steps on the accelerator to go ahead and backs into the car behind.

OPERATIONAL FACTORS (Unit #1)

Trip Preparation: _____

_____

Driving Stragety: _____

_____

Evasive Action: _____

_____

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CONDITIONAL FACTORS (Unit #1)

Driver: _____

Vehicle: _____

Trafficway: _____

OPERATIONAL FACTORS (Unit #2)

Trip Preparation: _____

_____

Driving Stragety: _____

_____

Evasive Action: _____

_____

CONDITIONAL FACTORS (Unit #2)

Driver: _____

Vehicle: _____

Trafficway: _____

ACCIDENT 6. An intoxicated driver made a right turn close to the curb at about 12 mph. A pedestrian was waiting on the sidewalk to cross the street into which the driver was turning. Just as the driver got around the corner to the crosswalk, the pedestrian saw his bus coming across the street and started to run for it, crossing in front of the car. The driver put on his brakes as soon as the pedestrian left the curb, but hit the pedestrian with the front center of his car, dragging him about 5 ft.

OPERATIONAL FACTORS (Unit #1)

Trip Preparation: _____

_____

Driving Stragety: _____

_____

Evasive Action: _____

_____

CONDITIONAL FACTORS (Unit #1)

Driver: _____

Vehicle: _____

Trafficway: _____

OPERATIONAL FACTORS (Unit #2)

Trip Preparation: _____

_____

Driving Stragety: _____

_____

Evasive Action: _____

_____

CONDITIONAL FACTORS (Unit #2)

Driver: _____

Vehicle: _____

Trafficway: _____

ACCIDENT 7. A farmer boutht a light truck and built up its sides to haul as much grain as possible. He loaded the truck with sand one day. When he was going down a 3 percent grade, following a school bus by about 80 ft at 35 mph, the bus stopped on the road ahead of him rather quickly. As soon as he saw the stop light on the bus go on, the farmer put on his brakes but the brakes "would not hold". The truck slowed down but not enough to avoid hitting the rear end of the bus. The farmer did not rurn to the left because cars were approaching on that side.

OPERATIONAL FACTORS

Trip Preparation: _____

_____

Driving Stragety: _____

_____

Evasive Action: _____

_____

CONDITIONAL FACTORS

Driver: _____

Vehicle: _____

Trafficway: _____

ACCIDENT 8. A truck driver with a high load approached an underpass that was marked, he noted, for "12 Foot Clearance." The maximum height permitted by law was 12.5 ft. His load was 13 ft high but he did not know it. He struck the underpass with the top of his truck.

OPERATIONAL FACTORS

Trip Preparation: _____

_____

Driving Stragety: _____

_____

Evasive Action: _____

_____

CONDITIONAL FACTORS

Driver: _____

Vehicle: _____

Trafficway: _____

Instructor's Initials _____

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OBJECTIVE

Provided a diagram of an accident scene, explain the five (5) stages of planning at-scene investigations as they would apply to the diagram, IAW Exhibit 3-4, TAIM.

PROCEDURE

You must accomplish this situation so that you can correctly plan for conducting an accident investigation.

STUDY ASSIGNMENT

TAIM, Exhibit 3-4

WORK ASSIGNMENT

SITUATION 1. Using the accident scene provided in this situation, write the accident tasks that must be accomplished, by order of precedence, for each of the stages of planning.

NOTE: Follow the guidelines on page 26 of the TAIM.

Stage 1. On Learning of the Accident

_____

_____

_____

_____

_____

Stage 2. On Arrival at the Scene of the Accident

_____

_____

_____

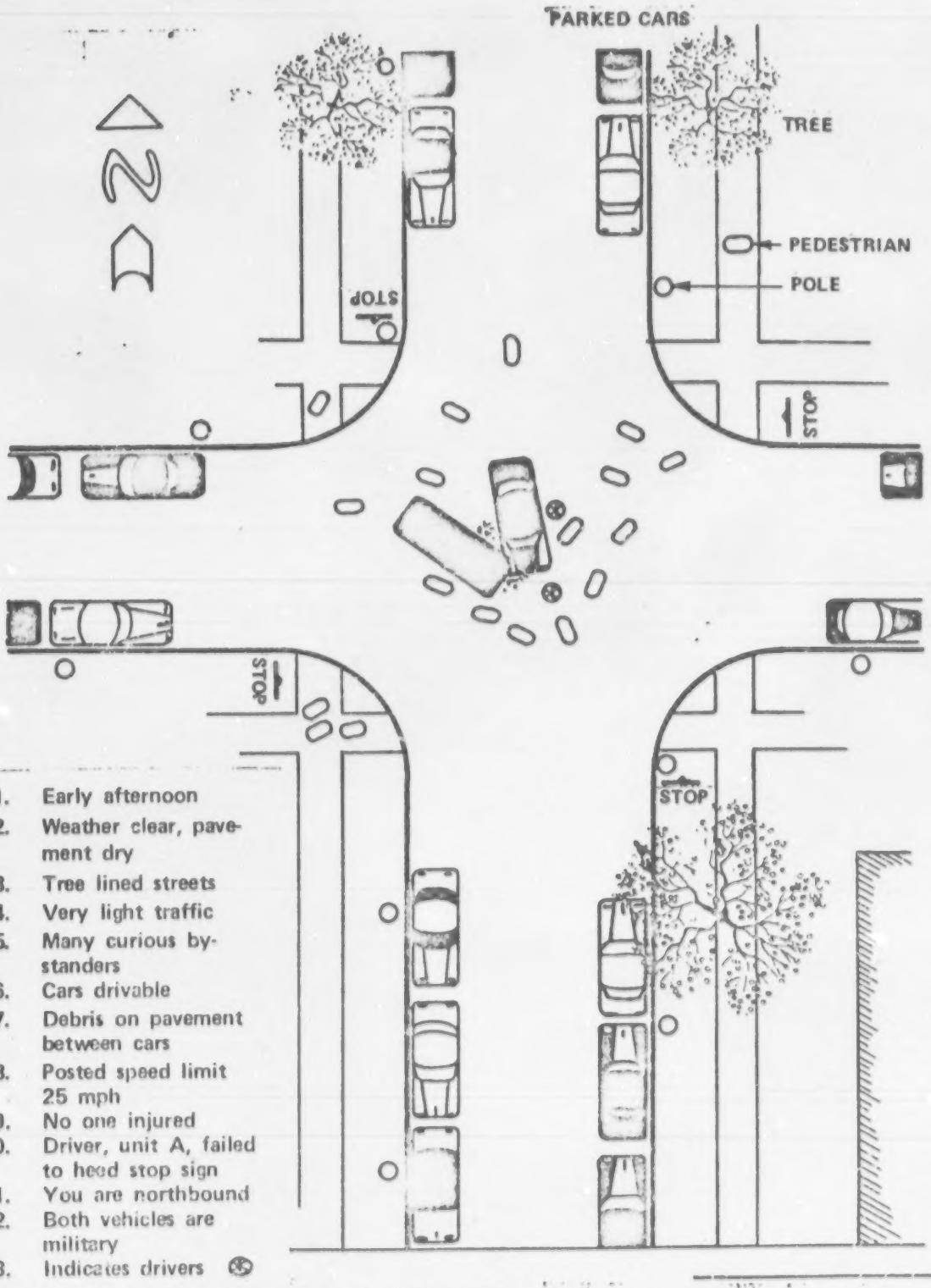
_____

_____

Stage 3. When the Emergency is Under Control

Stage 4. When Urgent Data-Collection is Complete

Stage 5. When Work at the Scene if Finished



1. Early afternoon
2. Weather clear, pavement dry
3. Tree lined streets
4. Very light traffic
5. Many curious bystanders
6. Cars drivable
7. Debris on pavement between cars
8. Posted speed limit 25 mph
9. No one injured
10. Driver, unit A, failed to heed stop sign
11. You are northbound
12. Both vehicles are military
13. Indicates drivers

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OBJECTIVE

Provided with a detail description of a traffic accident scene, each student will draw a scale diagram IAW the TAIM and FM 19-25.

PROCEDURE

Unless traffic accident investigators are thoroughly familiar with the traffic template/calculator and its many uses, traffic accident investigations can become very timely and complex.

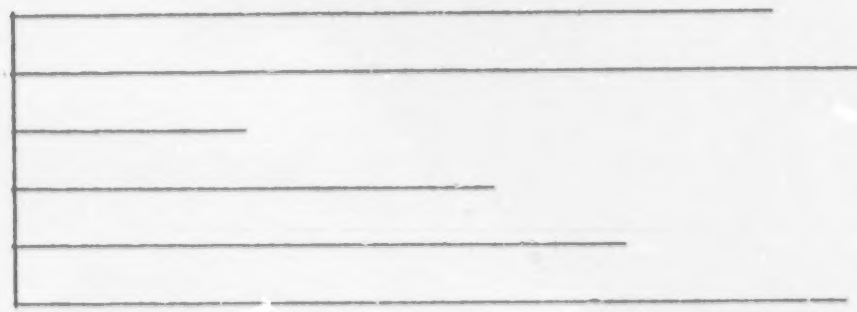
WORK ASSIGNMENT

QUESTIONS

Using the traffic template/calculator complete the following questions in the space provided. The primary instructor will provide all necessary equipment.

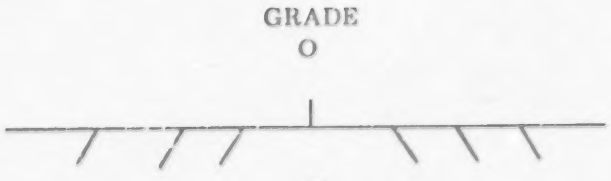
USE OF THE TRAFFIC TEMPLATE
LEARING EXERCISE

1. Using the Traffic Template (scale: 1 inch = 20 feet) measure the following distances: (Identify length at the end of each line.)

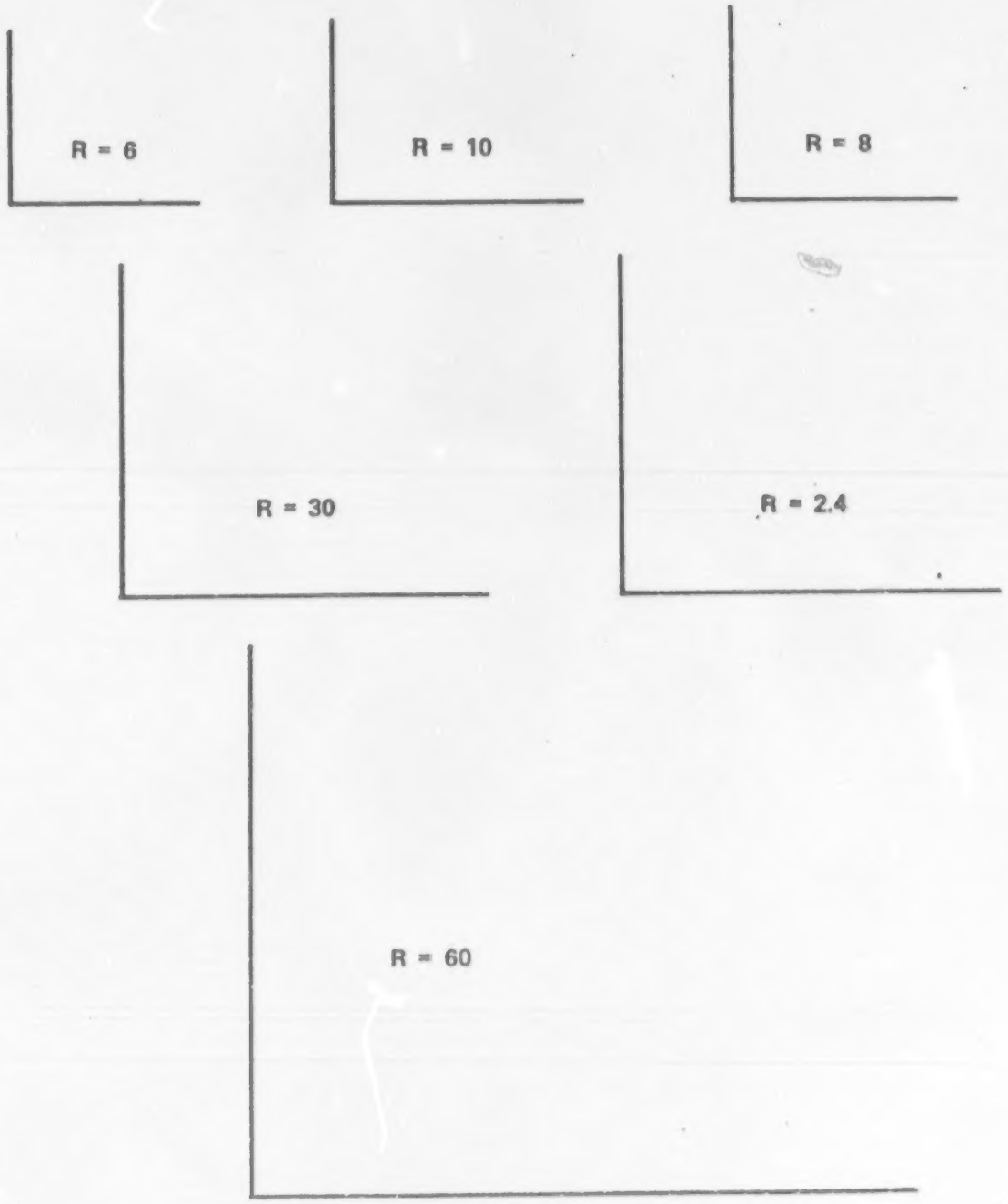


2. Using the Traffic Template, draw four vehicles corresponding to the scale: (1 inch = 10 ft).

3. Use your template and show the value of each of the marks at the bottom of the page. Make sure that the center of the pivot hole and the grade (0) are lined up.



4. Using the template (scale 1 inch = 20 feet) complete the following intersections, using radii as indicated.



5. Using the Radius Formula, $R = \frac{C^2}{8M} + \frac{M}{2}$, complete the following radius problems.

a. Chord = 50 feet
Middle Ordinate = 35 feet
R =

b. Chord = 60 feet
Middle Ordinate = 15 feet
R =

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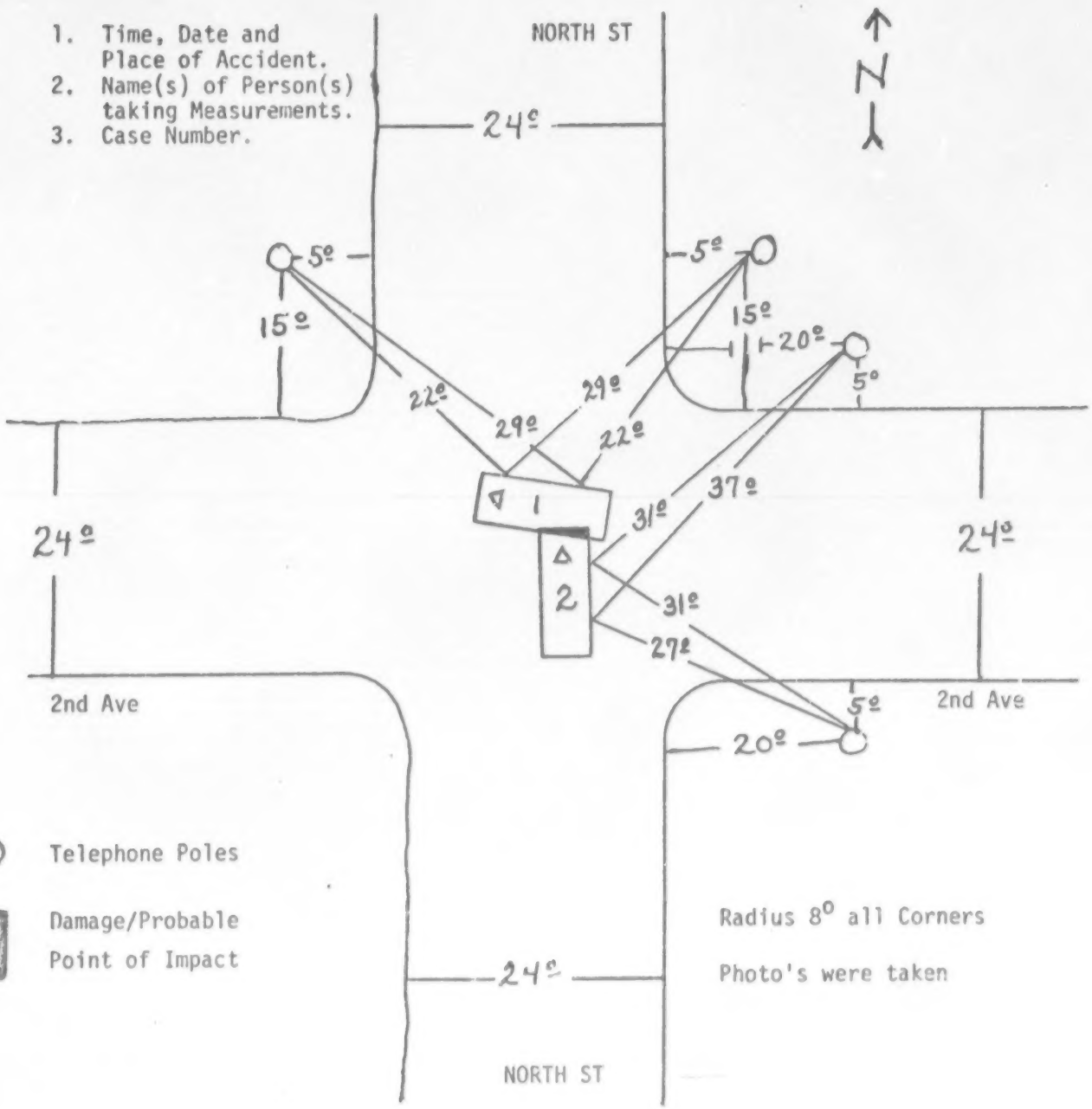
FIELD SKETCH

1. Time, Date and Place of Accident.
2. Name(s) of Person(s) taking Measurements.
3. Case Number.



Telephone Poles

Damage/Probable Point of Impact

Radius 8° all Corners

Photo's were taken

OBJECTIVE

Given Five (5) sets of accident vehicle skidmarks, determine the minimum speed of the accident vehicles, within plus or minus one (1) MPH.

PRECEDURE

The ability to determine minimum speeds from skid marks left by vehicles involved in traffic accidents can be a valuable tool to a law enforcement officer. The purpose of the following work assignment is to insure that you have that ability.

STUDY ASSIGNMENT

FM 19-25, Chapter 12, page 89, 90, 94, and 95.

WORK ASSIGNMENT

Answer the following problems in the space provided.

1. Determine the average skid length of an accident vehicle based on the following information.

RF = 59 Feet 3 Inches
LF = 56 Feet 6 Inches
RR = 54 Feet 2 Inches
LR = 60 Feet 1 Inch

ASL = _____ Feet _____ Inches.

2. Work the following problem utilizing the drag factor formula.

Test skid results "A"

S = 40 MPH
D = 72 Feet
F = _____

3. Work the following problem utilizing the speed formula.

Accident vehicle skid results "A"

D = 96 Feet
F = (Use answer from Test skid results "A" above)
S = _____MPH

4. Work the following problem utilizing the drag factor formula.

   Test skid results "B"

   S = 35 MPH
   D = 60 Feet
   F = _____

5. Work the following problem utilizing the speed formula.

   Accident vehicle skid results "B"

   D = 72 Feet
   F = (Use answer from test skid results "B" above)
   S = _____ MPH

Utilizing the drag factor and the speed formula, determine the minimum speed of the accident vehicles involved in the following situations, within plus or minus 2 MPH.

SITUATION 1. On a road zoned for 45 MPH, an accident vehicle left an average skid length of 65 feet. The drag factor of the road surface was determined to be .75. (SHOW WORK BELOW)

The minimum speed of the accident vehicle is _____ MPH.

SITUATION 2:

An accident vehicle left the following skid mark lengths at the accident site: LF = 54 feet, LR = 52 feet, RF = 54 feet, RR = 52 feet. A test skid was conducted at 30 MPH on the same road, in the same direction as the accident vehicle was traveling. The test skid mark lengths resulted in the following measurements: LF = 42 feet, LR = 41 feet, RF = 40 feet, RR = 41 feet. (SHOW YOUR WORK BELOW.)

The minimum speed of the accident vehicle was _____ MPH.

SITUATION 3:

An accident vehicle was traveling down an - .08 percent grade and left the following skid mark lengths: LF = 80 feet 4 inches, RF = 82 feet 1 inch, LR = 81 feet 4 inches, RR = 76 feet 3 inches. A test skid was conducted on a level portion of the same road at 35 MPH which resulted in an average skid length of 50 feet. (SHOW YOUR WORK BELOW.)

The minimum speed of the accident vehicle was _____ MPH.

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SITUATION 4:

A motorcycle involved in an accident left the following skid marks at the accident site: F/W = 50 feet, R/W = 80 feet. A test skid was conducted in the patrol vehicle at 30 MPH on the same road, in the same direction the accident vehicle was traveling. The test skids resulted in the following measurements: LF = 41 feet, LR = 40 feet, RF = 39 feet and RR = 40 feet. The motorcycle wheelbase was figured on a 1978 Honda GL 1000, of 72 inches or 6 feet. (SHOW YOUR WORK BELOW.)

The minimum speed of the accident vehicle was _____ MPH.

SITUATION 5:

A motorcycle involved in an accident was traveling up a +5 percent grade and left the following skids: F/W = 0 feet and R/W = 60 feet. A test skid was conducted on a level portion of the same road at 30 MPH in the patrol vehicle which resulted in an average skid length of 50 feet. Motorcycle wheelbase was figured on a 1978 Honda GL 1000, of 72 inches or 6 feet. (SHOW YOUR WORK BELOW.)

The minimum speed of the accident vehicle was _____ MPH.

OBJECTIVE

Given six (6) traffic control situations, determine the warrants for each situation and develop the proper traffic controls IAW Motor Vehicle Traffic Supervision (Joint Regulation) and the Manual on Uniform Traffic Control Devices for Streets and Highways.

PROCEDURE

The following exercises are designed to provide you with an understanding of the purpose and warrants for traffic controls on a military installation.

STUDY ASSIGNMENT

Motor Vehicle Traffic Supervision

Page 1-2
Page 4-1

Manual on Uniform Traffic Control Devices for Streets and Highways

Pages 30 through 34
Pages 63 through 66
Pages 177 through 204
Pages 235 through 240

WORK ASSIGNMENT

Answer the following questions in the space provided as completely as possible.

1. Who is responsible for regulating, warning or guiding traffic on a military installation?

2. What is the primary purpose of a traffic circulation plan?

3. Who is charged with the overall staff responsibility for the motor vehicle traffic supervision program?

4. Who is responsible for procurement, construction, installation and maintenance of all permanent traffic control devices?

5. Traffic control devices include all _____, _____, and _____ _____.

List the paragraph and page numbers from the Manual on Uniform Traffic Control Devices, which identifies the solution for each of the situations listed below.

SITUATION 1. What are the classifications of traffic signs?

Paragraph: Page:

SITUATION 2. What are the warrants for a stop sign?

Paragraph: Page:

SITUATION 3. How should a stop line be used in conjunction with a stop sign?

Paragraph: Page:

SITUATION 4. What are the eight warrants of a traffic control signal?

Paragraph: Page:

SITUATION 5. What are the requirements for pavement markings in advance of a railroad crossing?

Paragraph: Page:

SITUATION 6. Under what conditions should 12 inch lenses be used in traffic signals?

Paragraph: Page:

SITUATION 7. What are the width and patterns for longitudial pavement marking lines?

Paragraph: Page:

Match the shape and/or color with the correct type of traffic control devices.

_____	a. Octagon	1.	Guide sign
_____	b. Green	2.	Motorist services
_____	c. Round	3.	Contruction/maintenance
_____	d. Equalateral Triangle	4.	Warning
_____	e. Orange	5.	Recreational Int.
_____	f. Pentagon	6.	R/R Advance warning
_____	g. Blue	7.	No passing zone
_____	h. Diamond	8.	Regulatory
_____	i. Brown	9.	Stop sign
_____	j. Pennant	10.	School advance crossing
_____	k. Crossbuck	11.	One way sign
		12.	Yield sign
		13.	R/R Crossing sign

Answer the following questions in the space provided.

1. What is the minimum traffic control device(s) required at a railroad crossing?

2. A minimum of _____ signal faces for through traffic shall be provided.

3. Why should care be taken not to install too many traffic control signs?

4. A normal broken _____ line is used to delineate the edge of travel path where travel is permitted in the same direction on both sides of the line.

5. Establish the minimum time and recommended time for the clearance period on the following intersections.

a. Speed limit 30 MPH
Distance across intersection 25 feet
Vehicle length 18 feet
Minimum time yellow period: _____
Recommended time: _____

b. Speed limit 25 MPH
Distance across intersection 28 feet
Vehicle length 33 feet
Minimum time yellow period: _____
Recommended time: _____

c. Speed limit 45 MPH
Distance across intersection 32 feet (off-set intersection)
Vehicle length 18 feet
Minimum time yellow period: _____
Recommended time: _____

Speed		Braking distance		Reaction distance	Total stopping distance	
Miles per hour	Feet per second	Minimum practical (F=0.65) feet	Recommended for use in traffic control planning (F=0.35) feet	Simple reaction time, for most drivers, 3/4 second feet	Minimum feet	Recommended feet
5	7	3	2	5	8	7
10	15	5	10	11	16	21
15	22	12	22	16	28	38
20	29	21	38	22	43	60
25	37	32	60	27	59	87
30	44	47	85	33	80	118
35	51	63	115	38	101	153
40	59	82	153	44	126	197
45	66	104	195	50	154	245
50	73	128	238	55	183	293
55	81	155	290	61	216	351
60	88	185	342	66	251	408
65	95	217	405	71	288	476
70	103	252	467	77	329	544
75	110	289	536	82	371	618
80	117	328	609	88	416	697
85	125	370	688	93	463	781
90	132	425	771	99	524	870
95	139	463	860	104	567	964
100	147	514	952	110	624	1062

Vehicular stopping distances from various speeds.

Using the manual on uniform traffic control devices for streets and highways, determine the adequacy/inadequacy of the devices depicted on each of the enclosed diagrams. Where you feel the devices that are shown are inadequate or that additional devices are needed, make your recommendations by referencing the appropriate paragraph(S) on each of the diagrams.

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OBJECTIVE

Given twelve (12) types of traffic studies, determine the purpose for each of the studies, IAW FM 19-25.

PROCEDURE

The purpose of this work assignment is to provide the policeman tasked with traffic responsibilities, the knowledge of the various traffic studies and the requirements for each of the traffic studies.

STUDY ASSIGNMENT

TRAFFIC CONTROL STUDIES

Planning Traffic Studies

The traffic section of the installation's Law Enforcement office normally maintains a continuing program of traffic studies. The objective of this program is to insure that the installation traffic control plan is adequate, and to provide for the safe and efficient movement of traffic. In addition this program provides a continuing flow of information to the installation provost marshall, the traffic council, the installation master planning board, and the engineer, as justification for various road and related projects. Figure 1 reflects a guide to the various type studies with related information. Data on the guide is adjusted for each installation.

It is necessary to include traffic movement in the master plan of the installation. Prior to a major revision of the installation master plan, appropriate traffic control studies provide important information needed by the commander and his planners to provide roads and facilities to support their objective. Failure to include traffic as a consideration results in major control problems as well as reducing the efficiency of the installation. Planning should be coordinated with the post engineer, transportation officer and safety officer.

Traffic studies are required when a change of conditions occurs. This change of conditions may be major and affect the entire installation, such as a change in mission, relocation of units, a substantial increase in the number of vehicles, or a major change in the direction of movement of vehicles. The change of conditions may also be restricted to a small segment of the installation or even a short secondary road. It may be only a new building, an enlarged parking area, rebuilt road shoulders, or the removal of trees or power poles from the shoulders of the road. The type of change determines the nature and scope of the studies conducted.

In estimating time required for the preparation and conduct of studies, required training for personnel not previously involved in traffic studies should be considered. Time requirements for computation of data and study analysis depends on the extent to which automatic data processing (ADP) is used.

Road users must understand the need for studies if they are to support them. Close cooperation must be maintained with the installation information officer to insure all available media are used in publi relations efforts. In addition, commanders' conferences, daily bulletins, and poster campaigns are other means of insuring that the public is aware of the conduct of the study and its purpose.

Requirements for personnel as shown in Figure 1 are based on one operating location. Supervisors should be provided on the basis of one supervisor for every two to eight operating stations, however, the supervisor must be able to observe each operating location for a minimum of five (5) minutes each hour. Such a restriction may limit the number of operating locations under one supervisor. A coordinating supervisor, normally an officer or senior non-commissioned officer, is appointed from the traffic section for the entire study from initial planning to analysis of the results.

Each operating location should have two-way communications which enable the operating station to notify the traffic section of emergencies or problems. Supervisors should have a radio equipped vehicle. Planned communication permits direction and control of all study related activity from and through the traffic section.

Aerial photos, still photos, and motion pictures are valuable tools in resolving traffic problems. The techniques are of particular use in "before and after" views of critical intersections, in parking lot studies, and in the training of new personnel.

Training

Personnel assigned to traffic study duties must be trained prior to performing these duties. Use of untrained personnel may result in input of questionable data into the study.

Supervisory personnel, to include traffic officers and traffic non-commissioned officers, should be school trained in the conduct and analysis of traffic studies. This formal training should be supplemented by attendance at seminars, special courses at civilian institutions, and participation in extension course programs. Additional experience and training may be attained by close liaison with the State and local agencies that also supervise and conduct traffic studies.

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Personnel who conduct traffic studies need job-related training prior to performing these functions. Minimum classroom instruction is necessary. Usually, a brief orientation on the entire study, to include its importance to the installation, serve as a basis. The remainder of the training should take the form of practical exercises. The time required for these exercise varies according to the responsiveness of the personnel and their mastery of the task to be performed.

Pitfalls of Traffic Study Analysis

Because studies and statistical presentations often provide ready and apparent answers to problems, the provost marshal, traffic officer, or traffic noncommissioned officer can be misled into oversimplifying results when he identifies trends or establishes cause and effect relationships. He must constantly be on guard against accepting the quick and easy answer or the obvious solution to a problem. Some of the pitfalls are:

1. Failure to explore or evaluate all data at his disposal. All angles or approaches to a problem must be explored. Half-way measures encourage false conclusions.

2. Failure to recognize the effects of four (4) types of fluctuations in data, which occur commonly, and which are often misinterpreted.

a. A long-term trend which is not affected by short-term fluctuations or chance variations. It is brought about largely by changes in the basic factors contributing to the problem.

b. A long-term trend which fluctuates above and below the trend line which is influenced by economic cycles and a number of short-lived influences.

c. A seasonal fluctuation, or trend, which is produced by the time of day, time of week, time of year, etc., in which volume, speed, or incidents increase or decrease periodically according to the clock or the calendar.

d. A chance variation, or the spatter effect of data which has no real signigicance. When data are accumulated over a long period of time, chance variations tend to offset one another and for a definite pattern, but their concentration in short periods of time can be misleading. In determining real changes, the study must be sufficient in time span to identify and take into account the effects of cycles, seasons and chance variations.

3. Faulty reasoning or interpretation in one or more of the following forms:

a. Unjustified assumption of cause and effect. If one event always follows another, it is convenient, but incorrect, to assume that the former causes the latter.

b. Generalizing on the basis of an average. Various averages, arithmetical mean, median, and mode, are useful for identifying typical or representative cases, but they have limited use in making analysis. For example, icy roads may be involved in an average of one accident per 1000, yet icy roads attain major importance on the 1 or 2 days per year when the roads are dangerously icy.

c. Generalization from a specific instance. For example, the reduction in traffic loads brought about by staggering work hours among two major elements of an installation does not mean that a staggering of work hours among all elements of the installation will further reduce traffic loads. The converse may be true since such action may reduce the number of car pools and thus increase the number of vehicles using the installation roads.

d. Spurious accuracy. If two or more figures are combined in a computation and one of the figures is a guess or an approximation, the results cannot be accepted as a precise mathematical calculation. The results will only be an approximation.

Type	Purpose	Requirement for study	Personnel and equipment
Traffic Control Device Studies	To inventory, locate, classify, and evaluate traffic control devices; and increase adequacy of these devices.	One initial study of all devices which is updated by periodic studies of specific areas on a routine basis.	Special two-man teams. Normal patrol equipment, and stopwatch, tape measure (100 ft), Manual on Uniform Traffic Control Devices, field forms or notebook.
Vehicle Registration Study	To determine peak loads of traffic and adequacy of parking. May be used to adjust or update origin and destination study, or be used in lieu of this study.	As required to measure peak traffic in relation to existing roadways, and duty hour schedules.	Study is conducted by extraction and processing of information with ADPS. Traffic section personnel obtain input data, and ADP section processes data as required.
Origin—Destination Study	To develop data on origins and destinations of military and civilian personnel entering, leaving, or traveling within a military installation on a typical working day.	As required to support long-range planning, to anticipate major changes in strengths and functions, to support traffic construction requirements, and to assign traffic properly.	Varies with type and scope of study. See section IV.
Speed Study	To determine if prevailing speeds are proper; to determine proper speed for new or improved roadways; to serve as a warrant for, and guide in, the placement and operation of traffic control devices, and to assist in accident research and enforcement.	Conducted for specific roadways as a result of observation, enforcement activity, and accident experience. Also required for new or renovated roadways.	Personnel may consist of one-man or two-man teams depending on the method and type of study. Equipment may consist of patrol vehicle, mirror box, stopwatch, field sheets, radar (with or without graphic recorder) and electric timer. Normally, MP gear and marked vehicles are not used.
Speed-Delay Study	To determine variation in speed along a route; indicate amount, location, course, frequency and duration of delays, and provide overall speed and travel time along a route.	Conducted on specific routes as problems develop of congestion, delay and insufficient capacity. Also conducted when necessary to assign route priority, to consider use of alternate routes, to evaluate speed limits, and to check effectiveness of control devices.	Personnel will consist of a two-man team without distinctive MP gear. Unmarked sedan or ¼-ton truck, standard watch and stopwatch, and field sheets as required.
Motor Vehicle Volume Study	To obtain an accurate record of the number, directional movements, and variation in volume of motor vehicles passing through intersec-	Conducted as required to determine street adequacy, to appraise effectiveness of traffic control measures, and to establish priorities	Two military policemen are required to observe and record at a normal two way intersection. If traffic exceeds 1500 vehicles per hour enter-

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	tions or using major routes; and to provide data for use in construction of a traffic flow map.	and designs for traffic and/or road improvements and for new streets.	ing the intersection, one military policeman may be required for each of the four approaches. Ordinary watches, field sheets, summary sheets, and (if used) manual counters are needed.
Roadway Capacity Studies	To determine the practical capacities of roadways as an adjunct to other studies; and to provide basic information required to update traffic regulations, to establish priorities for street improvements, and to aid in traffic planning.	Conducted as required to relieve congestion through appropriate corrective action in those areas where traffic volumes exceed traffic capacities.	Varies wtih scope of study. Normally, as a minimum, requires a two-man team equipped with tape measure, stopwatch post or engineer maps, sketch pads, and odometer (optional).
Vehicle Occupancy Study	To determine the number of occupants per motor vehicle.	As required to examine parking difficulties and congestion; to assist in planning for future traffic and parking facilities, and to evaluate the adequacy of transit services.	Either one-man or two-man teams with normal MP gear depending on traffic volume. Equipment required includes ordinary watch, field sheets, and summary sheets.
Pedestrian Study	To determine the amount of pedestrian traffic at intersections and/or midblock crossing points.	As required to evaluate pedestrian-vehicle conflicts, and assist in planning control, physical protection, and enforcement measures.	Locally designed field sheets or notebooks. Either one-man or two-man teams depending on the pedestrian volume. Military police gear is not worn.
Observance of Stop Sign Study	To determine the degree of driver obedience.	As required to study the relation of driver obedience to accidents at high accident frequency locations, and to assist in taking measures to increase driver obedience.	One person can normally make this study. He should not wear distinctive military police equipment, and should have a watch and field sheets.
Observance of Traffic Signals Study.	To determine voluntary observance of intersection traffic control signals.	As required at intersections where congestion and high accident rates prevail.	Two military policemen without distinctive MP gear are normally required. On multiple approaches with heavy traffic, four or six military policemen may be required. Equipment consists of an ordinary watch, field sheets, and summary sheets.

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Type	Purpose	Requirement for study	Personnel and equipment
Parking Studies	To determine the adequacy, use, and location of existing parking facilities; and to provide guidance in the placement and design of parking areas for future use.	A comprehensive, installation survey is normally required only in conjunction with long-range planning for major changes in the installation. Surveys are conducted at specific areas as parking problems become evident, or in anticipation of the development of parking problems.	Field sheets, summary sheets, post map, aerial photos, and questionnaires are used as required for the specific study or survey being conducted. Personnel requirements and use of military police gear depend on the type and scope of the study.
Accident Records Study	To improve enforcement, engineering, and education programs.	As needed to identify and treat high accident locations, to assist in evaluating highway design factors, to establish priorities of action, and to measure effectiveness of remedial action.	ADP equipment and trained personnel for automatic data processing. Normally, two military police perform observations for condition and collision diagrams.

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WORK ASSIGNMENT

SITUATION 1. What are the three (3) E's of traffic planning?

a.

b.

c.

SITUATION 2. What are the three (3) purposes of traffic studies?

a.

b.

c.

SITUATION 3. Who is responsible for conducting the traffic studies?

SITUATION 4. Complete the analysis of the following Vehicle Volume study.

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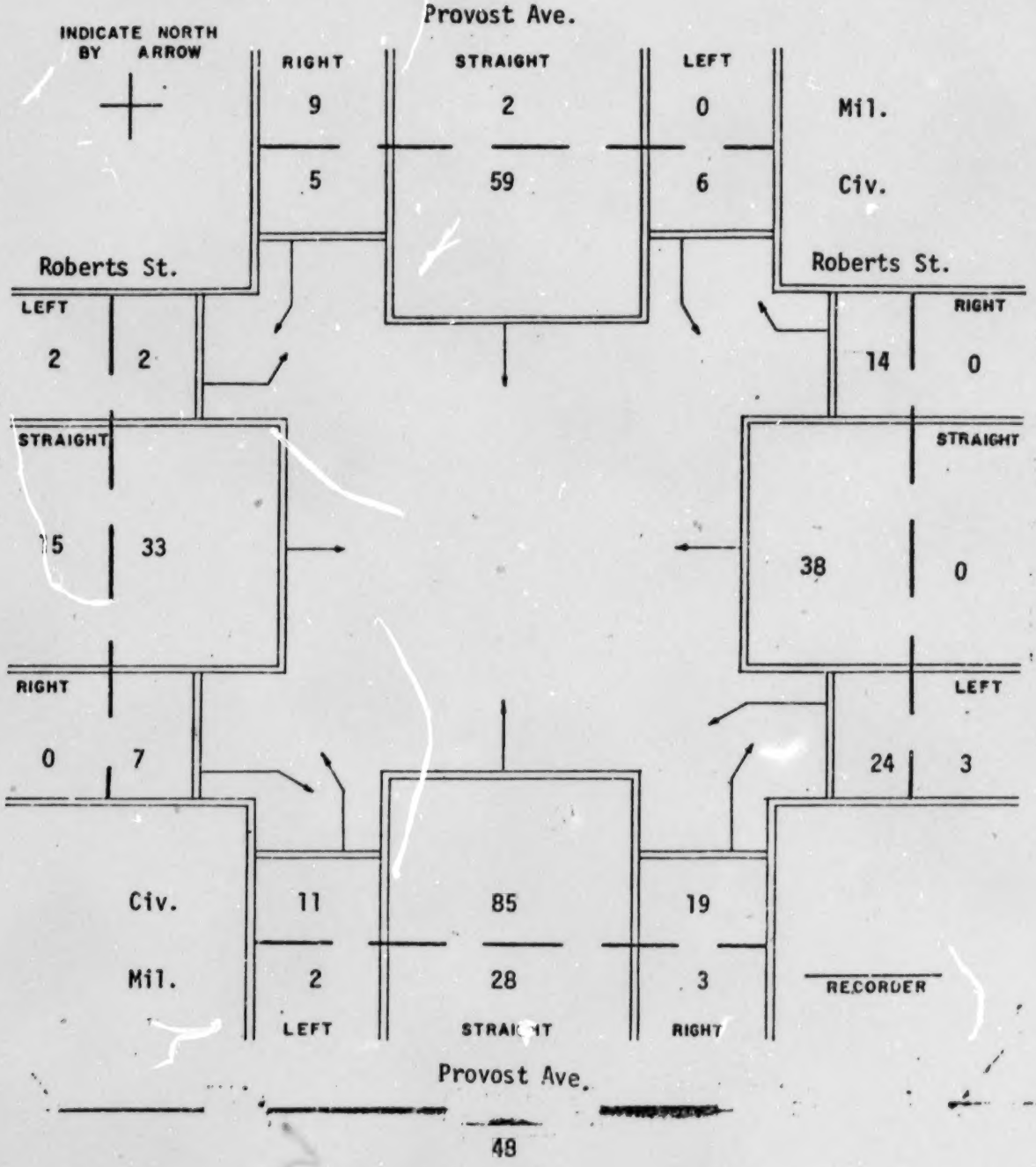
VEHICLE VOLUME

FIELD SHEET

DATE _____ LOCATION Provost Avenue & Roberts Street

WEATHER Clear ROAD SURFACE CONDITIONS Dry TIME FROM 0700 - 0730 TO _____



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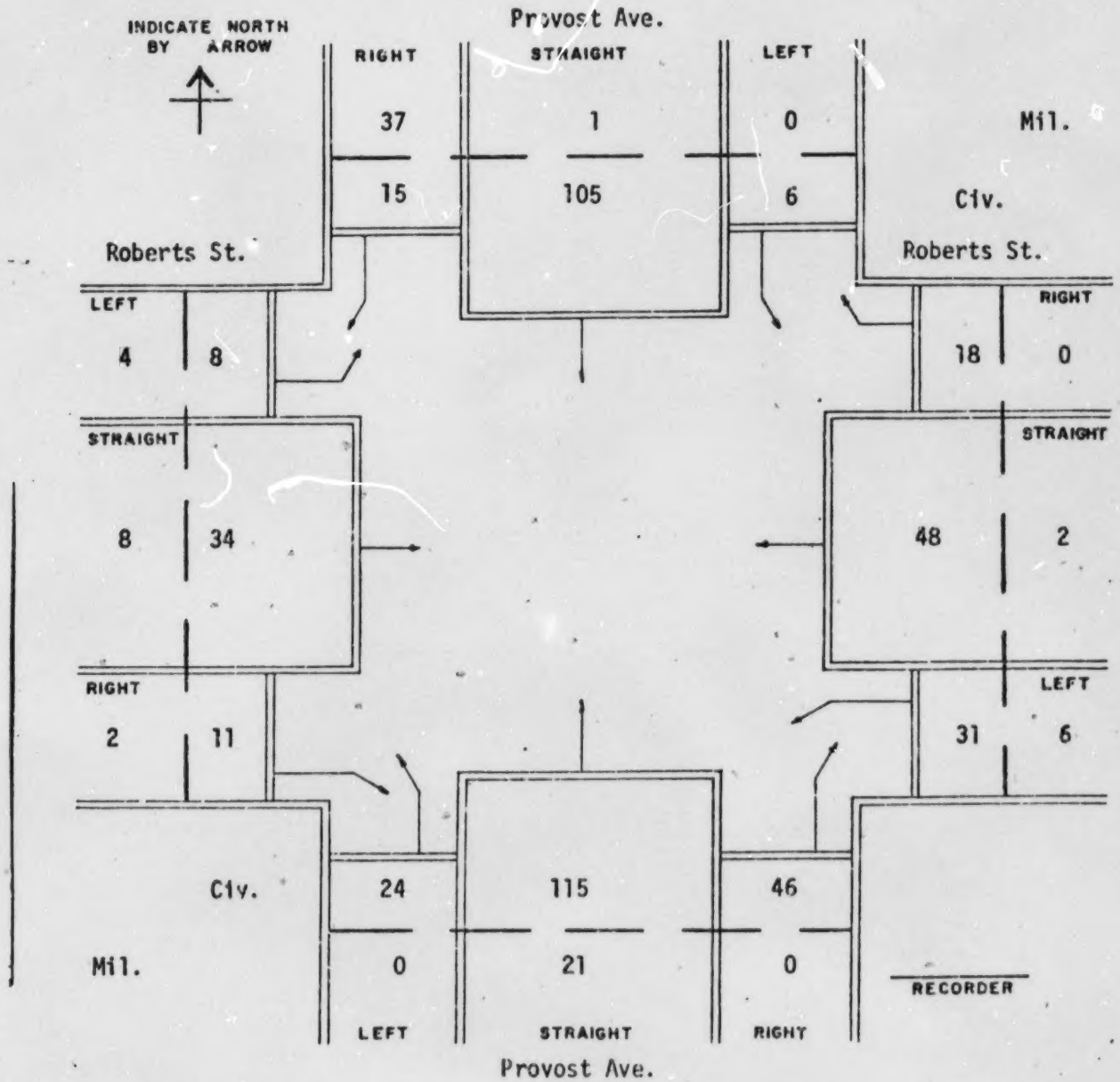
VEHICLE VOLUME

FIELD SHEET

DATE _____ LOCATION Provost Ave. & Roberts St.

WEATHER Clear ROAD SURFACE CONDITIONS Dry TIME FROM 0730 - 0800 TO _____



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LOCATION _____ DATE _____

WEATHER _____ ROAD SURFACE CONDITION _____

Time starts M	From north on _____ St.			From south on _____ St.			From west on _____ St.			From east on _____ St.			Half hour total
	L	S	R	L	S	R	L	S	R	L	S	R	
0700–0730	6	61	14	13	113	22							
0730–0800													
0800–0830													
0830–0900													
0900–0930													
0930–1000													
1000–1030													
1030–1100													
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2100–2130													
2130–2200													
2200–2230													
2230–2300													
2300–2330													
2330–2400													
Total													
Total													

Compiled by _____

R—Right turn.
L—Left turn.
S—Straight ahead.

VEHICLE VOLUME

GRAPHIC SUMMARY SHEET

LOCATION _____ DATE _____

TIME _____ HOURS FROM

_____ TO _____

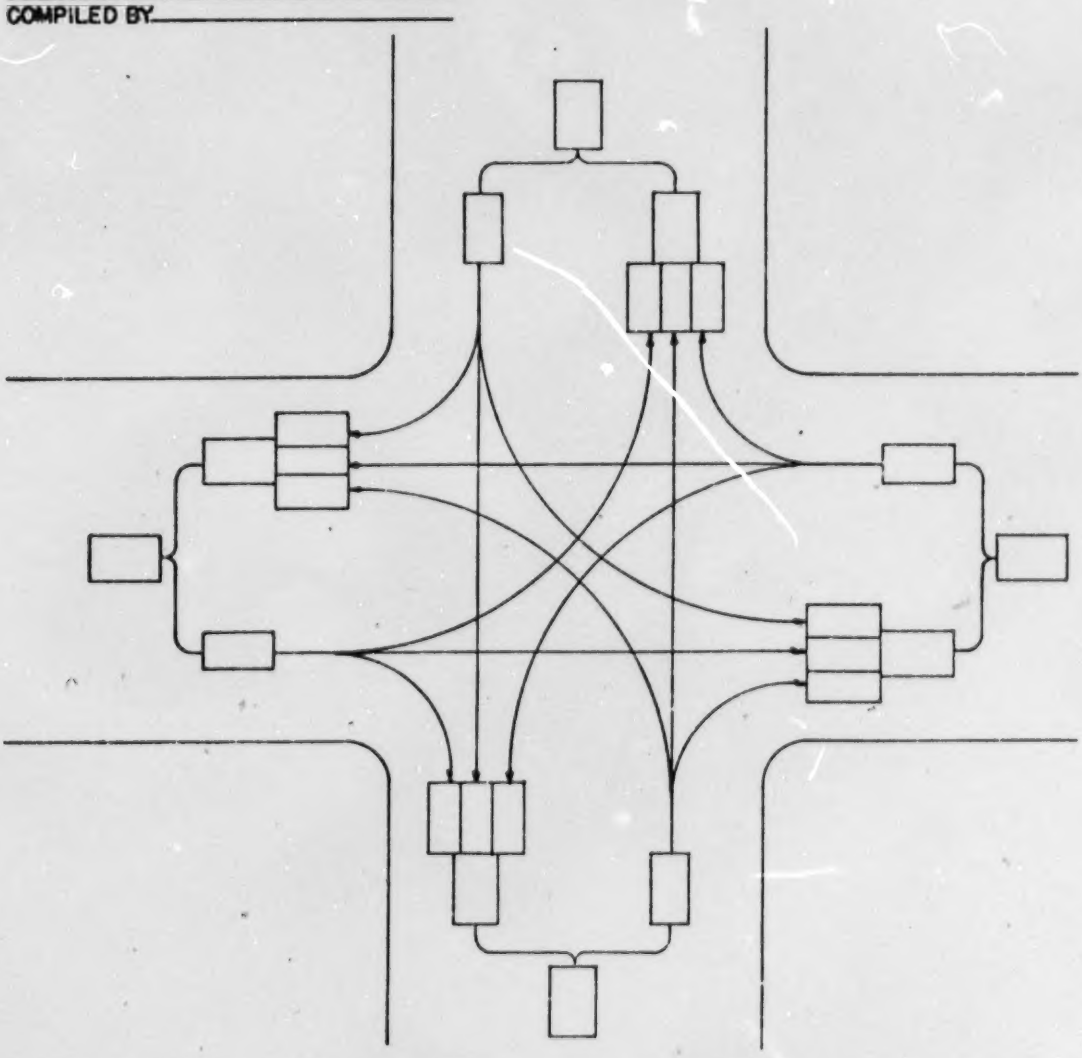
_____ TO _____

WEATHER _____

ROAD SURFACE CONDITION _____

COMPILED BY _____

INDICATE NORTH BY ARROW



REMARKS & RECOMMENDATIONS _____

QUESTION 1. Determine the purpose of traffic studies by completing the following exercise.

PURPOSE OF STUDIES

Match the type of traffic study with the purpose of the traffic study.

___	a.	To develop data on personnel leaving, or traveling within a military installation.	1. Traffic Control Device Study
___	b.	To determine the degree of driver obedience at stop signs.	2. Origin - Destination Study
___	c.	To determine the number of occupants per motor vehicle.	3. Speed Study
___	d.	To determine voluntary observance of intersection traffic control signals.	4. Speed - Delay Study
___	e.	To determine variation in speed along a route.	5. Motor Vehicle Volume Study
___	f.	To obtain an accurate record of motor vehicles passing through intersections.	6. Roadway Capacity Study
___	g.	To determine if prevailing speeds are proper.	7. Vehicle Occupancy Study
___	h.	To inventory, locate, classify, and evaluate traffic control devices.	8. Pedestrian Study
___	i.	To improve enforcement, engineering and education programs.	9. Observation of Stop Sign Study
___	j.	To determine the adequacy, use, and location of existing parking facilities.	10. Observation of Traffic Signal Study
___	k.	To determine the amount of pedestrian traffic at intersections and/or midblock crossing points.	11. Parking Study
___	l.	To determine the practical capacities of roadways.	12. Accident Record Study

OBJECTIVE

Given the necessary field data from a speed study, determine the optimum safe speed and the minimum safe speed based on the 85th percentile and the 15th percentile IAW FM 19-25, within One (1) MPH.

PROCEDURE

The object of this work assignment is to provide you with a thorough understanding of how to establish the optimum safe speed and the minimum safe speed based on the 85th and 15th percentile IAW FM 19-25.

STUDY ASSIGNMENT

None

WORK ASSIGNMENT

Using the enclosed Vehicle Spot Speed Field Sheets, numbered 1 and 2, answer the problems in the space provided.

1. Using Field Data Sheet No. 1 determine the optimum safe speed and the minimum safe speed based on the 85th and 15th percentile.

2. Using Field Data Sheet No. 2 determine the optimum safe speed and the minimum safe speed based on the 85th and 15th percentile.

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No. 1

SPEED CHECK FIELD DATA

(FOR CLASSROOM USE ONLY)

Date _____ Time begun 1620 Road 4th Ave Direction Northbound

Surface Concrete Time ended 1745 Location on road Adj. Bldg 4416

Dist. in ft. _____ Timed _____ Clear width _____ Clear before _____ After _____ Observer _____

Time	M.P.H. for		Passenger		1/4 & 3/4 Ton		Other trucks & buses		Total
sec.	88ft	176ft	Tally	No.	Tally	No.	Tally	No.	No
1.	60.0	120.0	II	2	I	1	I	1	4
1.1	54.5	109.0	III	3	I	1		—	8
1.2	50.0	100.0	///// ///	8	////	5		—	21
1.3	46.1	92.2	//// ////	9	///	3	///	3	36
1.4	42.8	85.7	//// //// ///	13	////	5	///	8	57
1.5	40.0	80.0	//// //// ///	13	//// //// II	12	//// II	7	89
1.6	37.5	75.5							
1.7	35.3	70.6	//// //// ////	20	///	3	II	2	114
1.8	33.3	66.6							
1.9	31.6	63.2							
2.	30.0	60.0	//// //// ///	13	//// ////	10	//// ////	9	166
2.2	27.2	54.5							
2.4	25.0	50.0	//// ////	8	///	3	////	4	181
2.6	23.0	46.1	//// ////	9	//// II	7	////	7	201
2.8	21.4	42.8							
3.	20.0	40.0	//// I	6	II	2	//// ////	10	219
3.2	18.7	37.5	II	2	///	3	////	4	228
3	17.6	35.2	I	1	I	1	///	3	233
3.6	16.6	33.3							
3.8	15.7	31.5							
4.	15.0	30.0	I	1		—		—	234
4.2	14.2	28.9							
4.4	13.6	27.2							
4.6	13.0	26.1							
4.8	12.5	25.0							
5.	12.0	24.0							
5.5	11.5	21.8							
6.	10.0	20.0							
6.5	9.2	18.5							
7.	8.5	17.1							
7.5	8.0	16.0							
8.	7.3	15.0							
8.5	7.0	14.1							
9.	6.6	13.3							
10.	6.0	12.0							
11.	5.4	10.9							
12.	5.0	10.0							
14.	4.2	8.5							
16.	3.7	7.5							
18.	3.3	6.5							
20.	3.0	6.0							
T... Timed									
Not Timed									
Grand Total									

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OBJECTIVE

Given three (3) sets each of accident vehicle "VAULTS" and "FALLS", determine the minimum speed of the accident vehicles within plus or minus one (1) MPH.

PROCEDURE

The ability to determine minimum speeds from distances of vaults by vehicles involved in traffic accidents can be a valuable tool to a law enforcement officer. The purpose of the following work assignment is to insure you have that ability.

STUDY ASSIGNMENT

TAIM: Pages 101, 225, 227, 232 and 316.

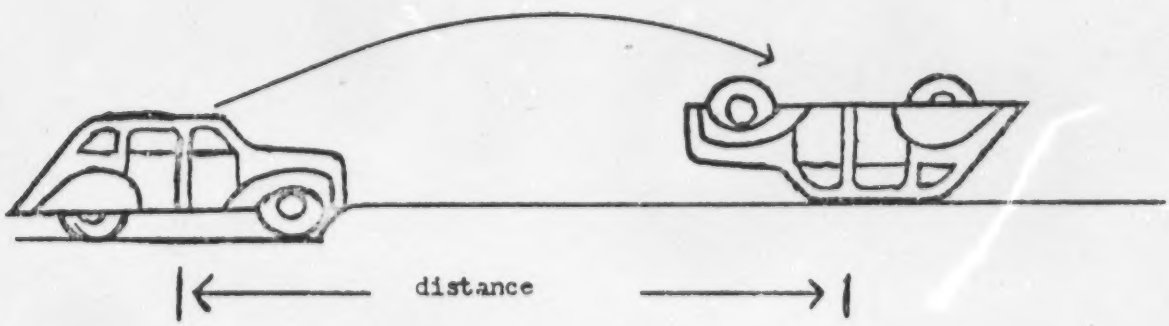
WORK ASSIGNMENT

Answer the following problems in the space provided.

In the formula for "VAULTS" the following is the meaning of each of the symbols used within it: S = Minumun Speed; 3.87 = Constant; d = Distance; _____ = Division Symbol; = Square Root Symbol; H = Height.

In addition to skid mark evidence, there are many other ways of determining minimum vehicle speed. In the case of a "VAULT," a car turning end over end in a forward direction, the following formula is used and is accurate within one (1) MPH.

$$\text{SPEED (Minimum)} = \frac{3.87d}{d - H}$$



///

DISTANCE = Center of vehicle at start of vault to center of vehicle at point of impact.

QUESTION

1. What was the minimum speed of a vehicle which vaulted a total of 81 feet? (SHOW YOUR WORK)

2. If a vehicle were traveling down a roadway and struck an object which caused him to "VAULT" a distance of 175 feet, what would the minimum speed of the vehicle be?

PROCEDURE

The ability to determine minimum speeds from distances of falls of vehicles involved in traffic accidents can be a valuable tool to a law enforcement officer. The purpose of the following work assignment is to insure you have that ability.

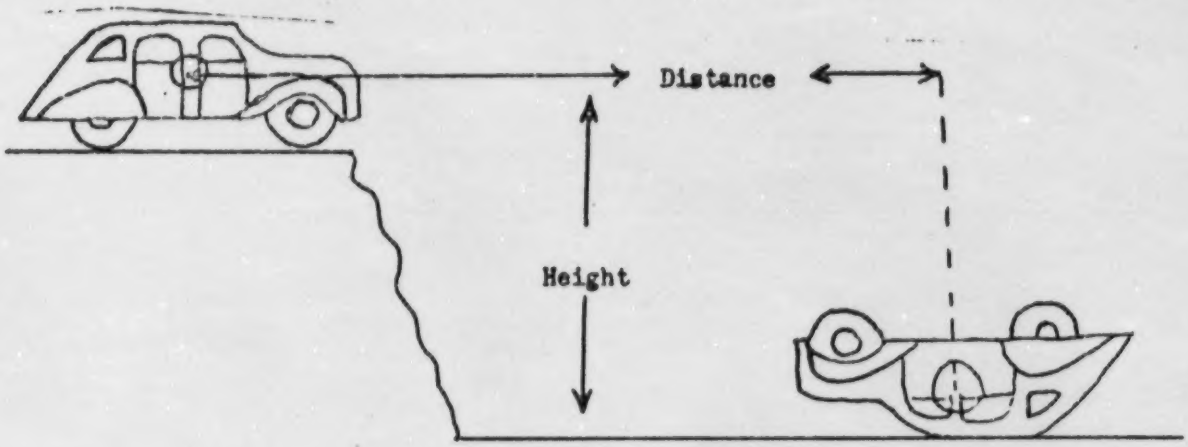
STUDY ASSIGNMENT

TAIM: Pages 101, 210, 221, 222, 223, 225 and 316.

WORK ASSIGNMENT

In the formula for "FALLS" the following is the meaning of each of the symbols used within it: S = Minimum Speed; 2.74 = Constant; d = Distance; $\sqrt{\ }$ = Square Root Symbol; $\frac{\ }{\ }$ = Division Symbol; md = Middle Distance (Slope up or down of the take-off point) and H = Height of Fall.

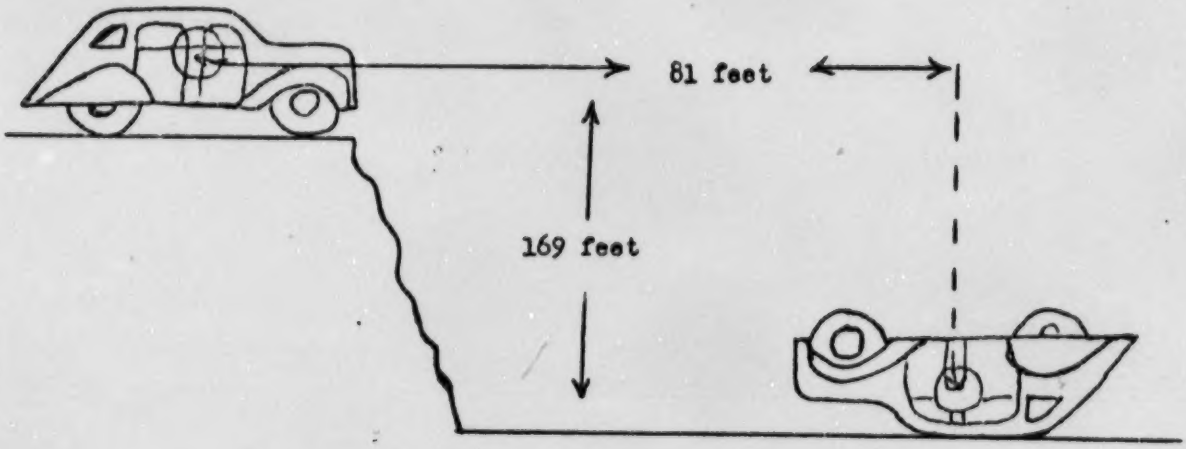
Having considered "VAULTS" we'll move on to "FALLS". If we can measure the distance a vehicle traveled and the height it fell, then we can determine that vehicle's minimum speed. The formula is: $S = \frac{2.74d}{md - H}$ MPH



QUESTION

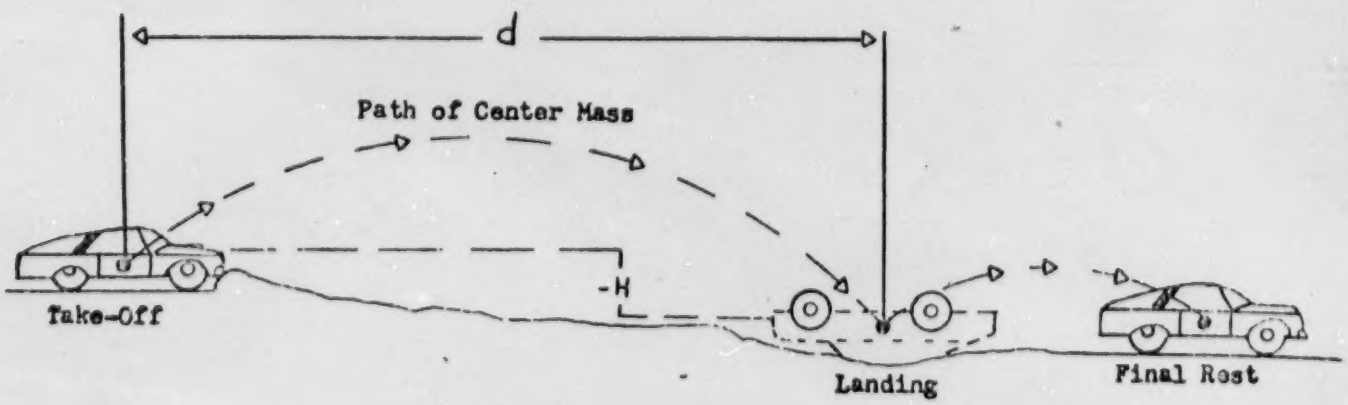
1. Determine the minimum speed of the vehicle depicted in the sketch below; utilizing the "FALL" formula.

Minimum speed is: _____.
(SHOW YOUR WORK)



2. A vault occurs when a vehicle strikes an obstacle, such as a curb, which stops further movement at the ground level. The vehicle usually lands upside down and may roll or flip again after that. Speed estimates are based on the horizontal distance the center of mass moves through the air to the first landing and the difference in elevation between landing and take-off, if any. Subsequent vaults and rolls are of no consequence.

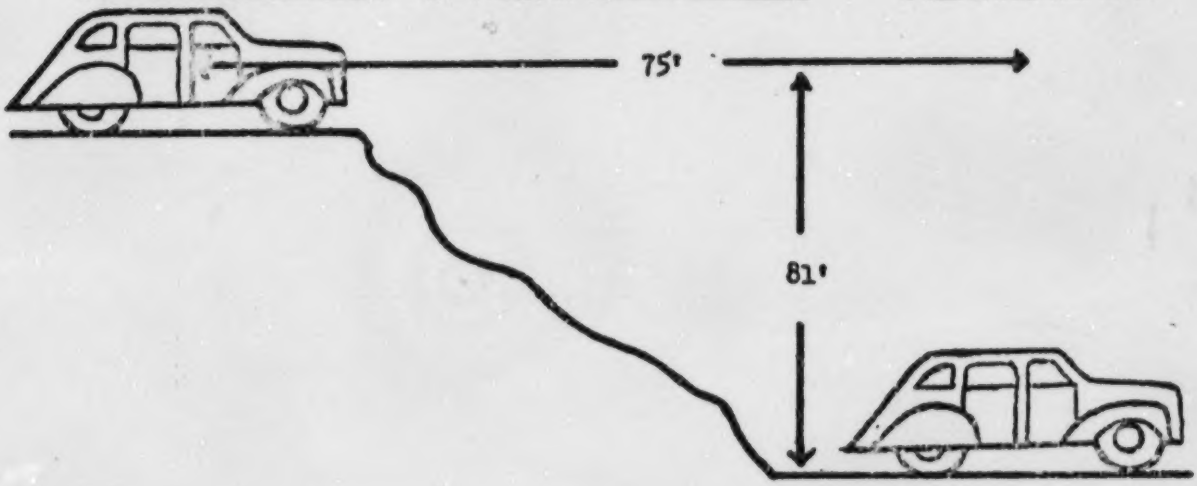
$$\text{SPEED (Minimum)} = \frac{3.87d}{d - H} \text{ MPH}$$



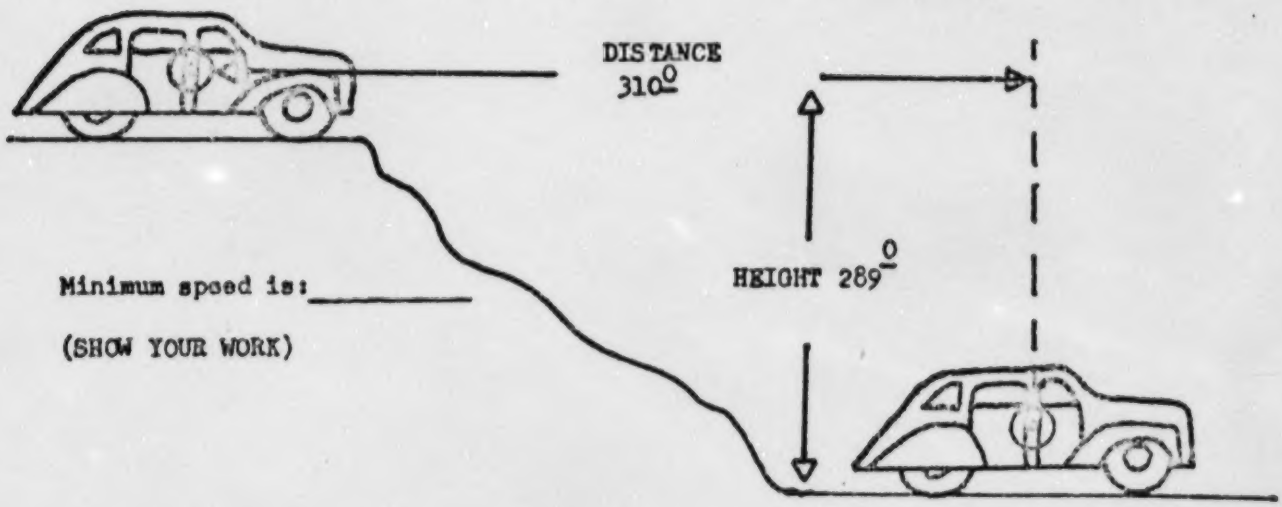
3. If the path of center mass was 65 feet and the Height of the vault was five feet what was the minimum speed of the accident vehicle? (SHOW YOUR WORK)

Minimum Speed is : _____MPH.

4. Utilizing the "FALLS" formula compute the minimum speed of the accident vehicle depicted below.



5. Utilizing the "FALLS" formula compute the minimum speed of the accident vehicle depicted below.



OBJECTIVE

Given the location of thirty six (36) vehicle accidents, prepare an accident spot map IAW AFR 125-19 and FM 19-25.

PROCEDURE

The objective of this work assignment is to provide you with the skills necessary to accurately prepare a spot map and the ability to evaluate each factor seperately, identifying the correlation between each factor.

STUDY ASSIGNMENT

FM 19-25, Military Police Traffic Operations Manual

Chapter 26, page 154

WORK ASSIGNMENT

Utilizing the information contained in the accident summary worksheet, a base map, and a color code, depict and identify the following:

a. Vehicle to Vehicle accidents

b. Vehicle to fixed object accidents

c. Vehicle to pedestrian accidents

ACCIDENT SUMMARY
(Worksheet)

	TIME	CLASS	LOCATION	TYPE	DAY	VIOLATION
1.	1145		Carswell/W bldg 7208	2 Vehs	Mon	Defective vehicle-Both vehs going north
2.	0845		Truemper/N bldg 6416	2 Vehs	Fri	Following too close-Both vehs going east
3.	1400	Disab.	Craig/W bldg 2149(E)	Veh/Fixed object	Thu	Too fast for conditions-Veh 1 south
4.	2100	Disab.	Scott/Shaw	3 Vehs	Thu	Following too close-All vehs going south on Shaw
5.	1630	Injury	Selfridge/George	2 Vehs	Mon	Failure to yield ROW-Veh 1 west-Veh 2 south
6.	1800	Injury	Selfridge/George	Veh/Ped	Wed	Failure to yield ROW-Veh 1 east-Ped north
7.	1215		Luke/Military Blvd (E/W)	2 Vehs	Fri	Failure to obey signs-Veh 1 east-Veh 2 south
8.	1230	Injury	Truemper/Hughes	Veh/Ped	Thu	Failure to yield ROW-Veh 1 west-Ped north
9.	2200	Injury	Selfridge/Hughes	2 Vehs	Tue	Failure to keep right-Veh 1 west-Veh 2 east
10.	2245	Fatal	Kenly/Luke(E)	3 Vehs	Fri	DWI-Veh 1 north -Veh 2 south on Kenly-Veh 3 east
11.	1500		Barnes/Luke	2 Vehs	Thu	Speeding 35/25 mph-Veh 1 east-Veh 2 north
12.	2330	Injury	Larson/Dimstead(E)	2 Vehs	Sat	DWI-Veh 1 east-Veh 2 south
13.	2300	Disab.	Scott/Shaw	2 Vehs	Wed	Failure to yield ROW-Veh 1 east -Veh 2 south
14.	1045	Injury	Truemper/Hughes	2 Vehs	Tue	Failure to yield ROW-Veh 1 west-Veh 2 north
15.	1900		Selfridge/George	2 Vehs	Wed	Speeding 35/25 mph-Veh 1 east-Veh 2 north
16.	0700	Disab.	Carswell/W bldg 7208	3 Vehs	Tue	Following too close-All vehs going north

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17.	1300	Injury	Craig/W bldg 1018(E)	2 Vehs	Fri	Too fast for conditions-Both vehs going south
18.	2315	Disab.	Kenly/Luke(E)	2 Vehs	Fri	DWI-Veh 1 north-Veh 2 west
19.	1545	Disab.	Selfridge/George	Veh/MC	Tue	Failure to yield ROW-Veh 1 east-Veh 2 north
20.	1635	Disab	Barnes/Luke	2 Vehs	Wed	Failure to yield ROW-Veh 1 east-Veh 2 north
21.	2300	Injury	Larson/Dimstead(E)	2 Vehs	Fri	DWI-Veh 1 east-Veh 2 south
22.	1700		Selfridge/George	Veh/MC	Mon	Failure to yield ROW-Veh 1 west-Veh 2 south
23.	1130	Injury	Carswell/W bldg 7208	2 Vehs	Wed	Too fast for conditions-Both vehs going south
24.	2205	Injury	Scott/Shaw	2 Vehs	Mon	Failure to yield ROW-Veh 1 east-Veh 2 south
25.	1630		Hughes/Selfridge	2 Vehs	Thu	Speeding 40/25 mph-Veh 1 south-Veh 2 west
26.	2200	Injury	Larson/Dimstead(E)	2 Vehs	Sun	DWI-Veh 1 east-Veh 2 south
27.	0645		Selfridge/George	2 Vehs	Fri	Failure to yield ROW-Veh 1 west-Veh 2 south
28.	0030		Larson/Dimstead(E)	2 Vehs	Sat	DWI-Veh 1 east-Veh 2 south
29.	1650	Injury	Hughes/Selfridge	2 Vehs	Fri	Failure to yield ROW-Veh 1 south-Veh 2 west
30.	0130		Larson/Dimstead(E)	2 Vehs	Sun	DWI-Veh 1 east-Veh 2 south
31.	2400	Disab.	Kenly/Luke(E)	2 Vehs	Sat	DWI-Veh 1 north-Veh 2 west
32.	0705	Fatal	Truemper/Hughes	Veh/Ped	Tue	Failure to yield ROW-Veh 1 west-Ped north
33.	0830	Injury	Larson/Dimstead(E)	Veh/Ped	Thu	Failure to yield ROW-Veh 1 east-Ped south
34.	1625		Barnes/Luke	2 Vehs	Tue	Failure to yield ROW-Veh 1 north- Veh 2 west
35.	1605	Injury	Hughes/Selfridge	2 Vehs	Mon	Failure to yield ROW-Veh 1 south-Veh 2 west
36.	0015	Disab.	Larson/Dimstead(E)	2 Vehs	Sun	DWI-Veh 1 east-Veh 2 north

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OBJECTIVE

Given a list of five hundred seventy four (574) accidents involving thirteen (13) types of violations, prepare a table listing the violations by degree IAW FM 19-25.

PROCEDURE

The objective of this workbook assignment is to provide you with the necessary skills to accurately prepare a tabulation of violations.

STUDY ASSIGNMENT

FM 19-25, Military Police Traffic Operations Manual

WORK ASSIGNMENT

SITUATION 1. Assist the instructor in preperation of a sample table of violations on the chalkboard utilizing the three suggested methods indentified below.

- Natural bearing out method
- 50th percentile method
- Percentage method

SITUATION 2. Using the table of violations, prepare a table listing the violations by the frequency of occurence, based on the percentage.

SITUATION 3. Using the natural bearing out method, list the violations according to precedence.

TABLE OF VIOLATIONS

VIOLATION	NUMBER	PERCENTAGE
Disregarded Stop Sign or Signal	36	
Cutting In (Improper Passing)	23	
Defective Equipment (or condition)	16	
Following too Closely	77	
Others	57	
Wrong Lane (including wrong side)	25	
Right of Way	123	
Improper Backing	36	
Improper Turn(s)	48	
Driving Under the Influence	17	
Violations by Pedestrians	10	
Improper Start From Parked Position	18	
Speeding (including unsafe speed)	88	
TOTAL	574	

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OBJECTIVES

Given the number of moving violations and the number of accidents occuring for the same period, compute the Traffic Enforcement Index, IAW FM 19-25.

PROCEDURE

The skills learned in this work assignment will prepare you to accurately complete a Traffic Enforcement Index and will enable you to effectively utilize it in your traffic enforcement program.

STUDY ASSIGNMENT

FM 19-25, Military Police Traffic Operations Manual

Chapter 26, pages 152 and 153

WORK ASSIGNMENT

SITUATION 1. Utilizing current statistics from a mock installation, assist the instructor in preparation of a sample Traffic Enforcement Index on the classroom chalkboard.

SITUATION 2. Using the formula for expressing the relationship of enforcement to accidents, compute the Enforcement Index based on the following information.

Moving Violation Disposed of with Penalty	Accidents	Enforcement Index
25	15	_____
114	23	_____
221	31	_____
300	36	_____
137	19	_____
247	25	_____
98	32	_____

Instructor's Initial _____

OBJECTIVE

Given the statistical data on vehicle accidents and violations for a one-month period, analyze the data and prepare a Traffic Enforcement Bulletin IAW FM 19-25.

PROCEDURE

The object of this work assignment is to provide you with the necessary skills to accurately prepare a Traffic Enforcement Bulletin and associated statistics.

STUDY ASSIGNMENT

FM 19-25, Military Police Traffic Operations Manual.

Chapter 26,

WORK ASSIGNMENT

This work assignment consists of 12 parts. Complete each part in its entirety prior to continuing on.

NOTE: Read the instructions carefully before starting each part.

TRAFFIC ENFORCEMENT BULLETIN

INSTRUCTIONS

Review the information contained in the accident summary worksheet, and based on the information, you will prepare a Traffic Enforcement Bulletin. The information contained in the Traffic Enforcement Bulletin will be accomplished as follows:

PART I - Using the accident summary worksheet, identify the hourly distribution of fatal and injury accidents.

PART II - Using the accident summary worksheet, identify the hourly distribution of accidents by day of the week.

PART III THROUGH PART VI - Using the accident summary worksheet, fill out the respective forms completely.

PART VII - Identify the total violations issued and the percentage rate.

PART VIII - Using the accident summary worksheet, complete the violations relating to accident experience and percentage rates.

PART IX - Using the accident summary worksheet, complete the synopsis.

PART X - Identify the specfic locations where increased selective enforcement is required for the month.

PART XI - Using the two intersection outlines provided, prepare two collision diagrams of the intersections experienceing the most accidents.

NOTE: A completed collision diagram is provided for your assistance.

PART XII - Complete as directed.

Instructor's Initials _____

ACCIDENT SUMMARY
(Worksheet)

	TIME	CLASS	LOCATION	TYPE	DAY	VIOLATION
1.	1145		Carswell/W bldg 7208	2 Vehs	Mon	Defective vehicle-Both vehs going north
2.	0845		Truemper/N bldg 6416	2 Vehs	Fri	Following too close-Both vehs going east
3.	1400	Disab.	Craig/W bldg 2149(E)	Veh/Fixed object	Thu	Too fast for conditions-Veh 1 south
4.	2100	Disab.	Scott/Shaw	3 Vehs	Thu	Following too close-All vehs going south on Shaw
5.	1630	Injury	Selfridge/George	2 Vehs	Mon	Failure to yield ROW-Veh 1 west-Veh 2 south
6.	1800	Injury	Selfridge/George	Veh/Ped	Wed	Failure to yield ROW-Veh 1 east-Ped north
7.	1215		Luke/Military Blvd (E/W)	2 Vehs	Fri	Failure to obey signs-Veh 1 east-Veh 2 south
8.	1230	Injury	Truemper/Hughes	Veh/Ped	Thu	Failure to yield ROW-Veh 1 west-Ped north
9.	2200	Injury	Selfridge/Hughes	2 Vehs	Tue	Failure to keep right-Veh 1 west-Veh 2 east
10.	2245	Fatal	Kenly/Luke(E)	3 Vehs	Fri	DWI-Veh 1 north -Veh 2 south on Kenly-Veh 3 east
11.	1500		Barnes/Luke	2 Vehs	Thu	Speeding 35/25 mph-Veh 1 east-Veh 2 north
12.	2330	Injury	Larson/Dimstead(E)	2 Vehs	Sat	DWI-Veh 1 east-Veh 2 south
13.	2300	Disab.	Scott/Shaw	2 Vehs	Wed	Failure to yield ROW-Veh 1 east -Veh 2 south
14.	1045	Injury	Truemper/Hughes	2 Vehs	Tue	Failure to yield ROW-Veh 1 west-Veh 2 north
15.	1900		Selfridge/George	2 Vehs	Wed	Speeding 35/25 mph-Veh 1 east-Veh 2 north
16.	0700	Disab.	Carswell/W bldg 7208	3 Vehs	Tue	Following too close-All vehs going north

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17.	1300	Injury	Craig/W bldg 1018(E)	2 Vehs	Fri	Too fast for conditions-Both vehs going south
18.	2315	Disab.	Kenly/Luke(E)	2 Vehs	Fri	DWI-Veh 1 north-Veh 2 west
19.	1545	Disab.	Selfridge/George	Veh/MC	Tue	Failure to yield ROW-Veh 1 east-Veh 2 north
20.	1635	Disab	Barnes/Luke	2 Vehs	Wed	Failure to yield ROW-Veh 1 east-Veh 2 north
21.	2300	Injury	Larson/Dimstead(E)	2 Vehs	Fri	DWI-Veh 1 east-Veh 2 south
22.	1700		Selfridge/George	Veh/MC	Mon	Failure to yield ROW-Veh 1 west-Veh 2 south
23.	1130	Injury	Carswell/W bldg 7208	2 Vehs	Wed	Too fast for conditions-Both vehs going south
24.	2205	Injury	Scott/Shaw	2 Vehs	Mon	Failure to yield ROW-Veh 1 east-Veh 2 south
25.	1630		Hughes/Selfridge	2 Vehs	Thu	Speeding 40/25 mph-Veh 1 south-Veh 2 west
26.	2200	Injury	Larson/Dimstead(E)	2 Vehs	Sun	DWI-Veh 1 east-Veh 2 south
27.	0645		Selfridge/George	2 Vehs	Fri	Failure to yield ROW-Veh 1 west-Veh 2 south
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29.	1650	Injury	Hughes/Selfridge	2 Vehs	Fri	Failure to yield ROW-Veh 1 south-Veh 2 west
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35.	1605	Injury	Hughes/Selfridge	2 Vehs	Mon	Failure to yield ROW-Veh 1 south-Veh 2 west
36.	0015	Disab.	Larson/Dimstead(E)	2 Vehs	Sun	DWI-Veh 1 east-Veh 2 north

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PART I

MONTH OF _____, 19____

HOURLY DISTRIBUTION OF FATAL AND INJURY ACCIDENTS BY DAY OF WEEK

STEP Location:

Total Community:

TIME of DAY	DAY OF WEEK							
	SUN	MON	TUE	WED	THU	FRI	SAT	TOTAL
0001 – 0100								
0101 – 0200								
0201 – 0300								
0301 – 0400								
0401 – 0500								
0501 – 0600								
0601 – 0700								
0701 – 0800								
0801 – 0900								
0901 – 1000								
1001 – 1100								
1101 – 1200								
1201 – 1300								
1301 – 1400								
1401 – 1500								
1501 – 1600								
1601 – 1700								
1701 – 1800								
1801 – 1900								
1901 – 2000								
2001 – 2100								
2101 – 2200								
2201 – 2300								
2301 – 2400								
TOTAL								

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PART II

MONTH OF _____, 19____

HOURLY DISTRIBUTION OF ACCIDENTS BY DAY OF WEEK

STEP Location:

Total Community:

TIME of DAY	DAY OF WEEK							
	SUN	MON	TUE	WED	THU	FRI	SAT	TOTAL
0001 – 0100								
0101 – 0200								
0201 – 0300								
0301 – 0400								
0401 – 0500								
0501 – 0600								
0601 – 0700								
0701 – 0800								
0801 – 0900								
0901 – 1000								
1001 – 1100								
1101 – 1200								
1201 – 1300								
1301 – 1400								
1401 – 1500								
1501 – 1600								
1601 – 1700								
1701 – 1800								
1801 – 1900								
1901 – 2000								
2001 – 2100								
2101 – 2200								
2201 – 2300								
2301 – 2400								
TOTAL								

SELECTIVE ENFORCEMENT STATISTICAL SUMMARY

PART III CLASSIFICATION

	Injuries	Property Damage	Totals
(A) Accidents requiring investigation			
(B) Accidents not requiring investigation (Functional Damage).			
Sub-totals Part A & B			
TOTAL ACCIDENTS EXPERIENCED FOR THIS REPORTING PERIOD			

PART IV LOCATION – CONDITION – INVOLVEMENT

	Inter-section	Straight Road	Ramp	Parking Lot
(A) Within Speed Limit				
(1) Other Vehicle			1	3
(2) Fixed Object			1	2
(3) Pedestrian			0	0
(4) Aircraft			0	0
(5) Noncollision			1	0
Sub-totals Part A			3	5
(B) Over Speed Limit				
(1) Other Vehicle			0	0
(2) Fixed Object			0	0
(3) Pedestrian			0	0
(4) Aircraft			0	0
(5) Noncollision			0	0
Sub-totals Part B			0	0
TOTALS OF PARTS A & B			3	5

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PART V DAY OF THE WEEK MOST ACCIDENTS WERE EXPERIENCED _____

ARI _____
Not Requiring Investigation _____
Total _____

PART VI TIME ELEMENT MOST ACCIDENTS WERE EXPERIENCED _____

PART VII TOTAL VIOLATIONS ISSUED AND PERCENTAGE RATE

	Number of Citations Issued Per Violation		Percentage of Total Citations Issued	
Violation	Last Month	This Month	Last Month	This Month
Driving while intoxicated	14	12		
Reckless driving	1	0		
Speeding	6	0		
Negligent driving	2	3		
Failure to yield ROW	16	18		
Following too close	2	3		
Improper turn	0	0		
Disobeyed stop sign	4	8		
Failure to obey signs or signals	0	0		
Improper passing and lane usage	0	0		
Defective or improper equipment	0	4		
Operator license or registration violation	0	0		
Operating 2-wheel vehicle without required equipment	0	0		
Other moving violations	0	0		
Nonmoving violations	0	7		
PART VII TOTALS	45	55	100%	100%

PART VIII VIOLATIONS RELATING TO ACCIDENT EXPERIENCE AND PERCENTAGE RATES

	Contributing Factor Per Each Accident Occurring		Percentage Per Factor of Total Accidents	
Factor	Last Month	This Month	Last Month	This Month
Driving while intoxicated	5			
Reckless driving	1			
Speed too fast for prevailing conditions	3			
Speeding	6			
Fatigue	0			
Asleep at wheel	0			
Inattentive	3			
Careless driving	0			
Right of way	6			
Following too close	4			
Improper turn	0			
Disregarding a stop sign or signal	2			
Failure to keep right	1			
Cutting in (Improper passing)	1			
Improper start from parked position	0			
Defective equipment or condition	2			
Improper backing or failure to use spotter	6			
Failure to obtain proper clearance	0			
Failure to obey traffic signs	0			
PART VIII TOTALS	40			

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PART IX SYNOPSIS

(A) Total nonmoving violations issued this period: _____

(B) Total moving violations issued this period: _____

(C) Total accidents experienced this period: _____

(D) Total moving citations (disposed of with penalty): 54

(E) Traffic Enforcement index for this period is: _____

54 moving citations disposed with penalty
divided by _____ accidents experienced = _____

Enforcement Index

PART X SPECIFIC LOCATIONS WHERE INCREASED SELECTIVE ENFORCEMENT IS REQUIRED FOR THIS MONTH

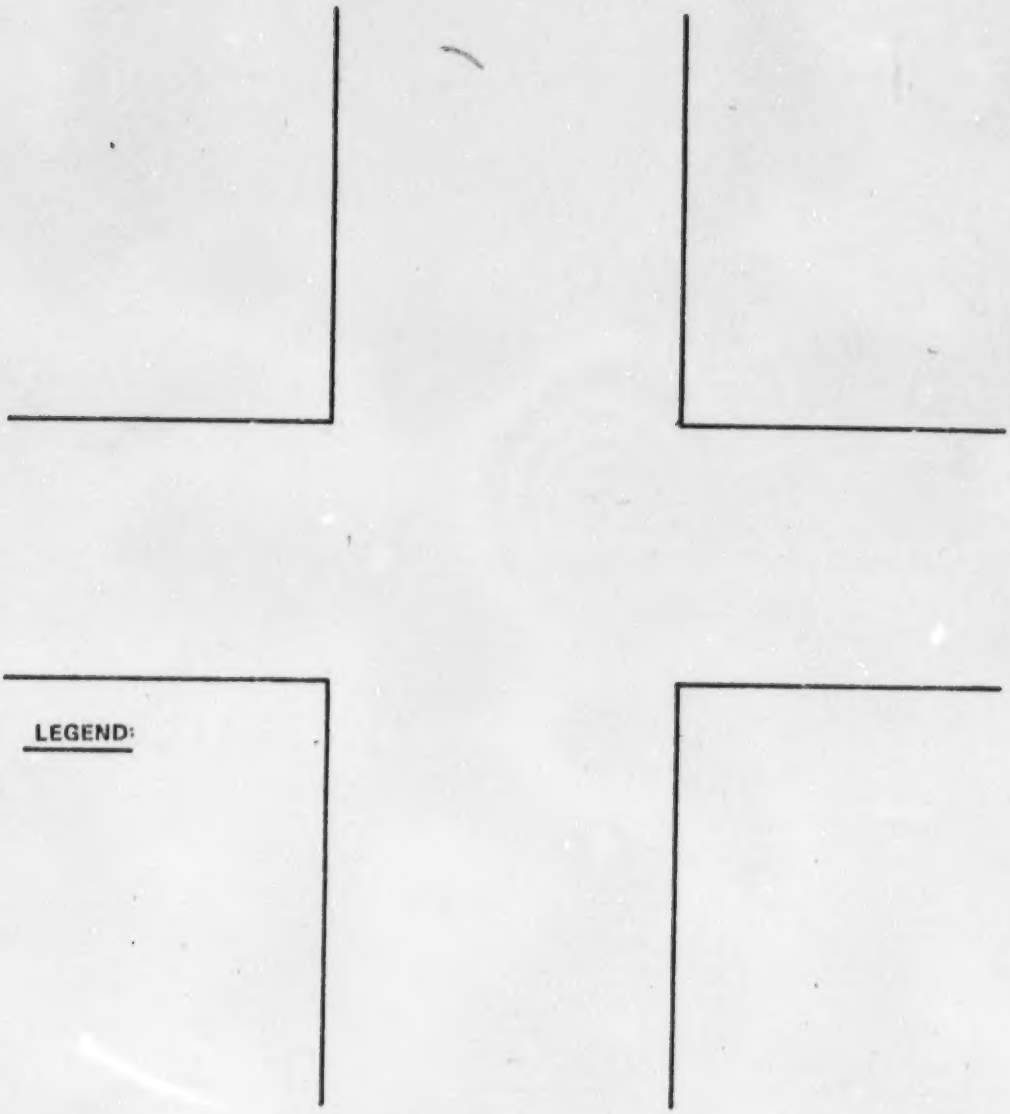
(A) _____

_____

(B) _____

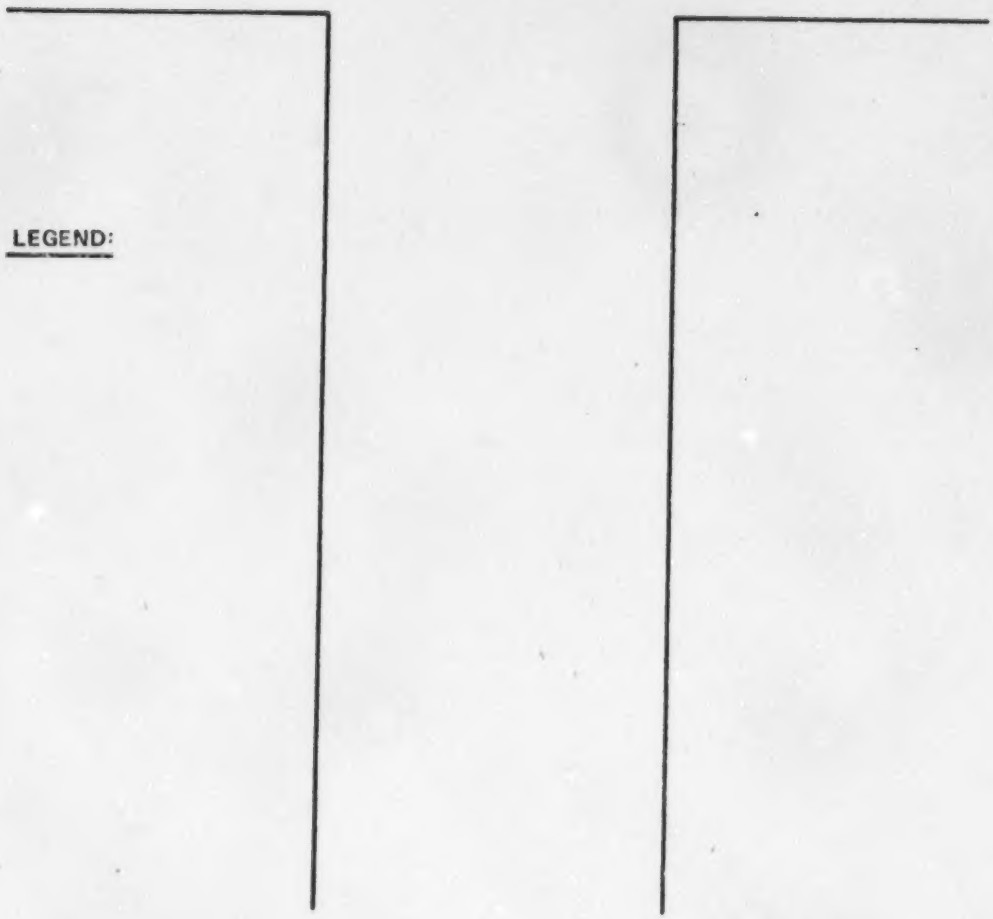
_____

PART XI



LEGEND:

PART XI



LEGEND:

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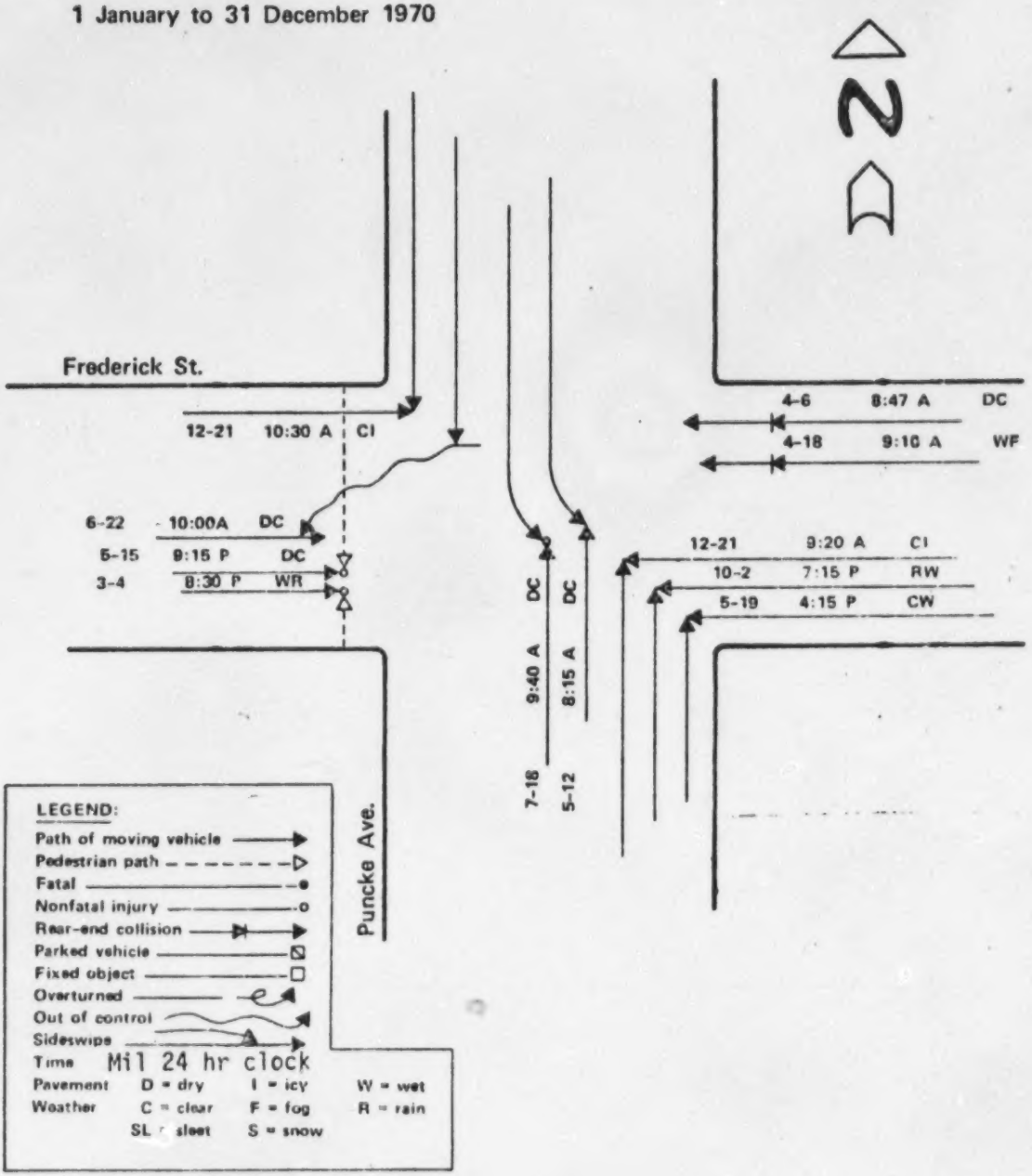
COLLISION DIAGRAM

1 January to 31 December 1970



PART XII

SELECTIVE TRAFFIC LAW ENFORCEMENT

Uing part X, paragraph A and B of your Traffic Law Enforcement Bulletin:

1. Indicate specific violations at the intersections and the time and day of occurrences.

2. For each intersection, indicate if the contributing factor has increased or decreased in number this month and by how much (percentage)?

3. For each intersection, indicate if the number of citations issued for the contributing factor increased or decreased on the installation as a whole?

4. What is the relationship, if any, between:

a. Time period when most accidents occurred during the week.

b. The day of the week when the most accidents occurred.

c. What is the relationship or importance of 4a and b to the location/specific intersection where selective traffic law enforcement will be required for the month.

C JECTIVE

Given the weights of three (3) accident vehicles and appropriate speeds, determine the minimum pre-collision speed of the accidents vehicles within plus or minus one (1) MPH.

PROCEDURE

The ability to determine pre-collision speeds of vehicles involved in traffic accidents can be a valuable tool to a law enforcement officer. The purpose of the following work assignment is to insure you have that ability.

STUDY ASSIGNMENT

TAIM, Chapter 9, Page 238 & 239.

WORK ASSIGNMENT

Answer problems 1, 2 & 3 with the formulas explained below, in the space provided.

Examination of the vehicles or skidmarks on the road from all tires shows that the vehicles slid together from collision to a stop. Then their pre-collision speed can be estimated, if the sliding distance and drag factor are known. After this is known then the speed before collision of each of the vehicles depends on the speed of the other and the weights of the two vehicles.

FORMULA: $S_1 W_1 + S_1' W_1 + S_2' W_2$ = Precollision Speed.

S_1 = Speed of Vehicle #1; W_1 = Weight of Vehicle #1; + = Combined with;

S_2 = Speed of Vehicle #2; W_2 = Weight of Vehicle #2

VEHICLE TO VEHICLE

EXAMPLE #1:

Vehicle #1 weighing 3,600 lbs was standing still when struck in the rear by Vehicle #2, weighing 4,200 lbs, leaving 50 feet of skidmarks. Compute the precollision speed utilizing the following formula.

STEP 1: Test skids resulting in a drag factor of .65.
STEP 2: Utilizing the Speed formula Vehicle #1 was travelling at 31 MPH (minimum speed).

STEP 3: Calculate the precollision speed with the formula mentioned above.

$$S_1 W_1 + S_2 W_2 = S_1' W_1 + S_2' W_2$$

$$0 \times 3,600 + S_2 \times 4,200 = 31 \times 3,600 + 31 \times 4,200$$

111,600 + 130,200 = 241,800 ÷ W_2 4,200 = S_2/ 57.571428 M.P.H.

VEHICLE TO PEDESTRIAN

EXAMPLE #2:

Vehicle #1 weighing 3,500 lbs was traveling at a minimum speed of 45 M.P.H. when it struck a pedestrian weighing 150 lbs. Compute the precollision speed of the pedestrian utilizing the momentum equation below.

$$S_1 W_1 + S_2 W_2 = S_1' W_1 + S_2' W_2$$

$$45 \times 3,500 + 0 \times 150 = S' \times 3,500 + S' \times 150$$
$$157,500 = S' \times 3,650$$
$$S' = 157,500 \div 3,650 = S_2/ 43.2 \text{ M.P.H.}$$

Thus, the pedestrian gains 43.2 M.P.H. and Vehicle #1 loses (45 MPH - 43.2 MPH = 1.8 MPH)

SITUATION #1:

Vehicle #1 weighing 3,800 lbs was standing still when it was struck in the rear deck Vehicle #2 weighing 4,600 lbs, which left an average skid length of 69 feet. The accident occurred on a flat surface of the roadway and a test skid was conducted at 30 M.P.H. with an average skid of 55 feet.

STEP 1: Drag Factor is _____.
STEP 2: Vehicle #1 minimum speed = _____.
STEP 3: Vehicle #2 precollision speed = _____.

SHOW YOUR WORK

SITUATION #2:

Vehicle #1 weighing 3,600 lbs was parked on a newly surfaced road with loose gravel when it was struck in the rear by Vehicle #2 weighing 2,400 lbs.. Vehicle #1 left skid lengths of; Right front 110.4, Right rear 99.8, Left front 110.5 and Left rear 98.7. A test was conducted on the same surface of the roadway which was straight and it resulted in an average skid length of 65 feet at 30 M.P.H..

SHOW YOUR WORK

STEP #1: Drag Factor is _____.
STEP #2: Vehicle #1 minimum speed = _____.
STEP #3: Vehicle #2 precollision speed = _____.

SITUATION #3:

Vehicle #1 weighing 4,200 lbs. was travelling at a minimum speed of 55 M.P.H. (as determined previously from skidmarks) when it struck a pedestrian weighing 189 lbs.. Compute the precollision speed of the pedestrian utilizing the momentum formula.

Thus, the pedestrian gains _____ M.P.H. and Veh #1 loses _____ M.P.H..
SHOW YOUR WORK

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OBJECTIVE

Given Ten (10) situations involving accident vehicles leaving skidmarks over two (2) surfaces, determine the combined speeds of the vehicles within plus or minus one (1) MPH.

PROCEDURE

The ability to determine the combined speeds of a vehicle after it slides to a stop over two different road surfaces can be a valuable tool to a law enforcement officer during an accident investigation. The purpose of the following work assignments is to help you attain this ability.

STUDY ASSIGNMENT

TAIM, Chapter 9, Pages 228 and 229.

WORK ASSIGNMENT

Answer Situations 1 thru 10 with the formulas explained below, in the space provided for each situation.

We can accurately estimate the accident vehicle's total minimum speed. It would be a GROSS ERROR to estimate the speeds on each surface and add these speeds to get a total. Two test skids must be conducted -- one for each surface. From this starting point a minimum speed is computed for each surface, utilizing the minimum speed formula taught earlier, (S_a^2 - Minimum speed on surface "a", S_b^2 - Minimum speed on Surface "b"). These speeds are then squared; the squares are added together and the square root of this sum determined. This square root equals the vehicle's total minimum speed over the different surfaces. In other words, if minimum speed on surface "a" is 40 M.P.H. and minimum speed on surface "b" is 30M.P.H. then the following computation is made to find the combined minimum speed:

S_a - Minimum Speed on Surface "a"
S_b - Minimum Speed on Surface "b"

$\sqrt{\ }$ - Square root symbol
S_c - Combined Speed (Minimum Speed)

$$S_c = \sqrt{S_a^2 + S_b^2}$$

$$S_c = \sqrt{40^2 + 30^2}$$

$$S_c = \sqrt{1600 + 900}$$

$$S_c = \sqrt{2500}$$

S_c = 50 M.P.H. (50x50 2500)

SITUATION #1:

If a vehicle skids on two different surfaces and the computations based on test skids conducted over each of these surfaces reveal that the minimum speed over Surface "a" is 15 M.P.H. and over Surface "b" is 20 M.P.H., what is total minimum speed estimate for the complete skid? (SHOW YOUR WORK)

SITUATION #2:

If the accident vehicle skided on two different surfaces and left the following skidmarks; Left Front:86 Ft; Left Rear:85 Ft; Right Front: 84 Ft; and Right Rear: 85 Ft; on surface "a" and left; Left Front: 68 Ft; Left Rear: 72 Ft; Right Front:71 Ft; Right Rear: 69 Ft; what was the minimum speed of the accident Vehicle? A test skid was conducted on the same surface with the following skidmark results; Left Rear: 77 Ft; Right Rear: 75 Ft; and the test was conducted at 30 M.P.H. (Wheelbase for all vehicles is 10 Ft.) (SHOW YOUR WORK)

SITUATION #3:

Utilizing the same test skid results from Situation #2 compute the minimum speed of a vehicle that skided on two different surfaces and left the following skidmarks: Left Front: 94 Ft; Left Rear: 95 Ft; Right Front: 93 Ft; Right Rear: 96 Ft; on Surface "a" and the following skidmarks on Surface "b": Left Front: 24 Ft; Left Rear: 23 Ft; Right Front: 22 Ft; and Right Rear: 21 Ft.. (Wheelbase is 10 Ft) (SHOW YOUR WORK)

SITUATION #4:

If a vehicle was going a minimum as 25 M.P.H. on one surface and a minimum of 20 M.P.H. on a second surface, what is the minimum speed the vehicle was going? (SHOW YOUR WORK)

SITUATION #5:

An accident vehicle skided over two different surfaces leaving the following skidmarks; Surface "a", Left Front: 78 Ft; Left Rear: 81 Ft; Right Front: 68 Ft; Right Rear: 70 Ft and Surface "b"; Left Front: 20 Ft; Left Rear: 10 Ft; Right Front: 22 Ft and Right Rear: 13 Ft. Test skids were conducted over the two surfaces which were level with the following results; Surface "a" average skid length: 64.5 Ft and Surface "b" average skid length: 9.5 Ft.. Test was conducted at 30 M.P.H.. What was the combined minimum speed of the accident vehicle? (SHOW YOUR WORK)

SITUATION #6:

If a vehicle was going a minimum of 45 M.P.H. on one surface and a minimum of 20 M.P.H. on a second surface, what is the minimum speed the vehicle was going on the combined surfaces? (SHOW YOUR WORK)

SITUATION #7:

An accident vehicle skided over two different surfaces leaving the following skidmarks; Surface "a", Left Front: 94 Ft; Left Rear: 95 Ft; Right Front: 93 Ft; Right Rear: 96 Ft and Surface "b": Left Front: 68 Ft; Left Rear: 72 Ft; Right Front: 71 Ft; Right Rear: 69 Ft. Two test skids were run on each surface with the "Test Vehicle" over the same surface of the roadway with the following results; Surface "a"average skid length: 65 Ft and Surface "b" average skid length: 59 Ft. Test was conducted at 30 M.P.H.. Determine the combined minimum speed of the accident vehicle. (SHOW YOUR WORK)

SITUATION #8:

If an accident vehicle was going a minimum computed speed of 30 M.P.H. on one surface and a computed minimum speed of 25 M.P.H. on a second surface, what is the combined minimum speed the vehicle was going? (SHOW YOUR WORK)

SITUATION #9:

If an accident vehicle was going a minimum computed speed of 45 M.P.H. on one surface and a computed minimum speed of 35 M.P.H. on a second surface, what is the combined minimum speed the vehicle was going? (SHOW YOUR WORK)

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SITUATION #10:

An accident vehicle skided over two different surfaces leaving the following skidmarks; Surface "a", Left Front: 72 Ft; Left Rear: 74 Ft; Right Front: 73 Ft; Right Rear: 71 Ftand Surface "b": Left Front: 74 Ft; Left Rear: 77 Ft; Right Front: 75 Ft; Right Rear: 79 Ft. Two sets of test skids were conducted on each surface with the following average skid length per surface; Surface "a" ASL: 58 Ft; Surface "b" ASL: 60 Ft. Tests were conducted at 30 M.P.H., Determine the combined minimum speed of the accident vehicle. (SHOW YOUR WORK)